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사회복지학박사 학위논문

**Social Activity Participation
in Later Life:
The Interplay between Individual and Dyadic
Accounts of Married Couples**

노년기 사회활동 참여:
노인부부의 자기-상대방 상호작용

2020 년 2 월

서울대학교 대학원
사회복지학과
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**Social Activity Participation
in Later Life:
The Interplay between Individual and Dyadic
Accounts of Married Couples**

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**A Dissertation Submitted to the Graduate School of
Seoul National University in partial fulfillment of the
requirements for the degree of Doctor of Philosophy
in Social Welfare**

**Department of Social Welfare
The Graduate School
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Abstract

Social Activity Participation in Later Life: The Interplay between Individual and Dyadic Accounts of Married Couples

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The present study aimed to examine individual and dyadic accounts of older married couple dyads, in relation to social activity participation and later life well-being. Along with the aging of our society, much focus has been on how to ‘age well,’ and the activity theory of aging has provided valuable insights and been one of the most preferred theories adopted by social workers and practitioners due to its applicability. As well, a number of studies have started to investigate the dynamics of older married couples who have increasingly become a large part of the population in recent years. The interdependent theory argues that a spouse’s behavior, attitude, emotions, daily activities, etc. may be decided by his or her partner, and can evolve into a distinct mold of interpersonal regulation in the long term. Nonetheless, it appears that few studies have attempted to examine the interdependence of older married

couples (who are likely to have a longer history of interdependent interactions than other age-group couples) with regard to their social activity participation and its impact. Therefore, the present study examined individual and dyadic experiences of older married couples in relation to social activity participation and later life well-being as in life satisfaction and depressive symptoms.

Using the sixth wave of Korean Longitudinal Study of Aging (KLoSA) panel data, 1,631 dyads (3,262 individuals) of married older adults aged 60 years and above were selected for the study. In order to examine not only married couples' individual experiences but also their dyadic accounts of social activity participation and its effects on later life well-being, Actor-Partner Interdependence Model (APIM) was adopted for analyses. Older married couples' social activity participation was examined with life satisfaction and depressive symptoms, while confounding variables such as age, educational attainment, labor force participation, household income, subjective health, cognitive functioning level, cohabitation with children, frequency of meeting with non-cohabitant children, residential area, and religion were controlled.

In the individual level analyses, the findings showed that higher levels of informal social activity participation such as meeting up with friends, neighbors, and relatives were indeed likely to be related to higher levels of life satisfaction as well as lower levels of depressive symptoms for both husbands

and wives, as expected. In the dyadic level analyses, however, the results demonstrated that the wives were not likely to be affected by their husband, which has been a common direction of the findings in previous dyadic studies, albeit with different research questions. Interestingly, it was the husbands' depressive symptoms that were linked to their wife's formal and informal social activity participation. Unexpectedly, though, the types of the social activity appeared to elicit the opposite results. That is, the wives' higher levels of participation in informal social activities were related to their husband's lower levels of depressive symptoms; but the wives' higher levels of participation in formal social activities were related to their husband's higher levels of depressive symptoms. While the wives' meet-up with friends, neighbors, and others seemed to be associated with ameliorating their husband's depressive symptoms, the wives' activity participation such as volunteering, joining religious group activities, sports clubs, political/interest groups, etc. appeared to be related to the worsening of their husband's depressive symptoms. Therefore, even though the results are seemingly the opposite from the previous studies, it was argued in the discussion that the findings of the husbands being affected by their wife represent the husbands' conservative values in Korea.

Still, this finding should be taken with caution because the present study used the cross-sectional data and did not actively investigate causal

relationships. The implications for the activity theory of aging and the interdependence theory as well as for developing intervention programs were discussed.

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Keywords: Social Activity Participation, Life Satisfaction, Depressive Symptoms, Activity Theory of Aging, Interdependence Theory, Actor-Partner Interdependence Model, Married Couples, Old Age
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CHAPTER I. INTRODUCTION

1.1. Statement of the Problem and Significance of the Study

For the past decades, much attention has been paid to longer life expectancy and subsequently the aging of our society, which has led a number of researchers to focus on how to ‘age well.’ Population projections in Korea have revealed that older adults over the age of 65 are likely to occupy 43.9 % of the total population in 2060, which is a sharp jump from 14.9% in 2019 (Statistics Korea, 2019). Considering the fact that the average life expectancy in 1970 was 62.3 years and the life expectancy in 2017 is 82.7 years (Statistics Korea, 2018), it is not surprising to find a substantial amount of research from various sectors such as sociology, public health, social work, nursing, etc., trying to examine its implications in our society. Moreover, it is projected that the ratio difference of males and females over the age 65 will get smaller by 2060¹ while households headed by older adults are expected to increase 2.9 times in the 30-year projection period (Statistics Korea, 2017a, 2017b, 2019). That is, by the year 2045, 47.9% of all Korean households will be headed by the elderly in Korea, and this is a considerable increase from 21.8% in 2019. Out of these households, almost 43% of households are headed by older

¹ As of 2019, there are 75.3 men per 100 women over the age 65. This ratio is expected to be 91.3 men per 100 women in 2060.

married couples.²

What this represents is that a significant number of older adults are likely to spend their later years with their spouse for a longer period of time.³ However, as compared to early and middle-aged married couples in Korea, there appears to be comparatively few research examining unique experiences by later-life couples who have shared a longer history together. This may be due to the tendency to consider old-age groups as homogeneous in literature, as a number of scholars have noted (Kim & Choi, 2011; Kwon & Cho, 2000). Not only that, investigating husbands and wives in old age, as compared to other age-group couples, is of importance because older couples' different dynamics could be observed greater according to gender. A person is born and socialized throughout his or her life, and these accumulated experiences due to gender could be manifested quite different and more prominent for husbands and wives in old age (Ferraro & Shippee, 2009; Settersten, 2002).

Therefore, the present study aims to bring attention to older married couples' dynamics in Korean literature, and suggests that understanding

² Although the one-person household occupies the biggest pie (34.2%), the noticeable household ratio increase is that of older married couples headed household (33.2%) and older married couples with adult children household (9.6%) (Statistics Korea, 2019).

³ It should be noted that older married couples getting divorced (often referred as "twilight divorce") is on the rise. However, the issue of a need for research on older married couples due to its increase population in Korean society has been emphasized in many studies (e.g., Kim & Choi, 2011), and thus the present study highlighted it by taking the most recent population projection results from the Statistics Korea (2017, 2019a) here.

unique experiences of older married couples shall shed light on how to ‘age well’ and well-being in later life in this aging society. As one of the longest and the most influential relationship, married couples in old age are crucial relationships to explore. Further, there is a solid interdependent relationship between husband and wife. Marriage is a source of support as well as one’s identity, and being married involves interdependence (Carstensen, Gottman, & Levenson, 1995). Dynamic complexities exist in these spousal interactions that are inherent, and the levels of interaction and interdependence increase as the couples spend time together for a longer period of time (Kelley et al. 2003). Older couples not only have spent their life for a longer period of time but also are likely to have faced changes in social interactions together due to retirement, health deterioration, and other issues, and they are likely to have made collective decisions on many aspects of their life (Lee, 2015; Lee & Kim, 2014). This aspect of adapting to new situations may become stressful for both husband and wife, and it may be a crucial part of understanding older couples’ well-being in later life.

However, it seems that there has been only a small body of research that properly investigated married couples’ interdependent relationships in old age. One of the reasons might be the lack of appropriate statistical tools to observe this aspect. Quite often, investigations adopted an analytical method that assumed independence (e.g., ordinary-least squares multiple regression)

between spousal observations. As emphasized by Kenny and colleagues (Kenny, 1996; Kenny & Nasby, 1980), interdependent responses of couples' feelings, behaviors, perceptions and the like should be examined carefully, because the couples are likely to be similar in age, education, socioeconomic status, and communication style; and the couples share the same familial atmosphere as well as the experiences of interacting with children and relatives. When the interdependence between husband and wife is not equated into analyses and the independence between the two is simply assumed, the end results could be biased (Kenny, Kashy, & Cook, 2006). Therefore, the present study aimed to explore the interdependence of older married couples in order to better understand and provide base knowledge for developing interventions for older couples, by adopting Actor-Partner Interdependence Model (APIM), which is a model of dyadic relations that incorporates a conceptual notion of interdependence within relationships of two persons, with statistical procedures for testing it (Kenny et al, 2006).

As well, in this aging society, a significant number of studies have paid attention to how to 'age well.' Although the notion of 'aging well' has existed before, Robert Havighurst introduced "successful aging" and delved into positive aging perspectives in 1961. Postulating Activity Theory of Aging, Havighurst suggested that rather than withdrawing from activities in old age, active engagement with new social roles in substitution of activities in middle

age is crucial for 'aging well'. The theory emphasizes that active engagement in old age is the most fundamental part of life, and the best way to accommodate to changing circumstances in old age is to participate in activities that promote diverse types of social interaction (Havighurst, 1961; Nilsson, Bülow, & Kazemi, 2015). Certainly, there has been much research that supported the activity theory of aging; and a number of works have provided evidence that older adults' social participation is associated with life satisfaction and psychological well-being such as depressive symptoms. When investigating well-being and life satisfaction in later life, looking into its connections with social activities is valuable, because when people age they are likely to lose social roles, which may be linked to the potential for decreasing satisfaction in life (Mutchler, Burr, & Caro, 2003). Social interaction and activity in old age is also believed to lessen negative psychological well-being such as depressive symptoms in later life (e.g., Cacioppo, et al., 2006; Jang & Chiriboga, 2011). And thus, social activity theory has been one of the most preferred theories adopted by social workers and practitioners, because of its applicability and readiness into developing interventions and delivering social services (Adams, Leibbrandt, & Moon, 2011).

However, it appears that there is paucity in literature that incorporates the interdependent dynamics of husband and wife with social activity

participation and its effects on life satisfaction and depressive symptoms, though scholars have suggested that more socially active older adults tend to have stronger marital intimacy and have highlighted the importance of social activity participation for older couples (e.g., Kim et al., 2013). Would husbands' social activity participation be linked to wives' life satisfaction? Would wives' social activity participation be linked to husbands' depressive symptoms? Married couples' interdependence has been highlighted in literature (Gotlib & Hammen, 1992; Tower & Kasl, 1996) but little has been attempted when it comes to exploring the interdependent experiences of the couples' social activity participation in later life, even though further information on social activity aspects of older adults could be advantageous for fostering interventions and as such. This noticeable lack of research has been perhaps due to statistical limitations in analyzing married couples' interdependence with analytic tools that assume independence. Therefore, it is suggested that exploring this link between social activity and life satisfaction/depressive symptoms within the actor-partner interdependence model (APIM) is in itself meaningful, and has a prospective in providing a deeper understanding of married couples in old age and a basis for developing appropriate interventions, as well as has a potential to further the activity theory.

All in all, the present study is interested in social activity participation in later life and its effects in terms of life satisfaction and depressive symptoms, while exploring the individual and dyadic accounts of married couples in old age. The results could provide deeper understandings and relevant information on developing interventions for older adults, as having further knowledge on social activity participation in old age could provide a valuable starting point for fostering specific intervention programs for married older adults. As well, the study aims to provide further knowledge, obtained from the Korean panel data set, on the interdependent nature of husband and wife.

1.2. Research Questions

The following research questions were examined in this study:

First, is social activity participation of married older adults related to their own life satisfaction and depressive symptoms?

Second, is social activity participation of married older adults related to their spouse's life satisfaction and depressive symptoms?

CHAPTER II. REVIEW OF LITERATURE

2.1. Social Activity in Later Life

2.1.1. Activity Theory of Aging

In the realm of gerontology, sociology, social work, nursing, public health, and others, one of the main interests may be how to ‘age well’; that is, how one can reduce negative aspects of mental health such as depressive symptoms and promote positive aspects like life satisfaction in old age? When it comes to examining well-being in later life, activity theory of aging, pioneered by Havighurst (1961), is one of the most favored theories embraced by social workers and practitioners in the gerontology sector, because of its applicability and readiness into developing interventions and delivering social services (Adams, Leibbrandt, & Moon, 2011). Although these observations were discouraged by some researchers who argued that the improvements derived from such services were just self-fulfilling prophecies, there has been consistent evidence that activity theory of aging is indeed useful, and the theory continues to draw persistent support from researchers (Baker et al., 2005; Longino & Kart, 1982). Ultimately, the activity theory of aging aims to find answers for managing challenges of aging and to bring enrichment to the lives of older adults (Nilsson et al., 2015). Activity theory is valuable in promoting a meaningful, content, and successful life in old age, as it provides

a framework of overall effect of participating in activities in later life (Havighurst, 1961).

Later life could be crowded with health concerns, inconveniences, and challenges on a daily basis. Certainly, in old age, one may face social withdrawal or role loss, due to retirement, widowhood, or losing ability to partake in certain activities. One may encounter a loss of personal identity, isolation, or low self-esteem in old age. On the other hand, it could be a time filled with highly meaningful, satisfying, and dynamic life. One of the essential premises of activity theory, as suggested by Havighurst (1961) as well as Lemon, Bengtson, and Peterson (1972), is that active engagement in old age is the most fundamental part of life. Contrary to the disengagement theory, which suggests aging individuals want to socially withdraw from their activities in later life, Havighurst and colleagues emphasized that this common characterization of old age, i.e., social withdrawal, is opposite to the needs of the actual older adults. People, when they have been happy being active in their younger age, will be happy in later life if they continue to be productive and active (Havighurst, 1961). It is asserted that individuals in old age do not lose interest in activity, but rather have the similar psychological and social needs just like when they were in middle age. When one reaches an old age, he or she still needs socialization, needs to have sense of belonging, connection, and purpose.

According to activity theory, when one participates in social activities, he or she interacts with others and this social contact fulfills a basic human need for connection and creates a sense of community (Maier & Klumb, 2005). It underscores that an active and socially integrated life is a key element of well-being in old age. Because activity theory is rooted in symbolic interactionism, one's self-concept or identity is characterized in terms of interactions with others and the environment, and these interactions may influence one's behavior, thoughts, and aging process. In other words, when a person is high on activity and involved with interactions with others and the environment, this increases how positively he or she sees himself or herself; and it enhances adjustment and satisfaction in later life (Diggs, 2008). Research has uncovered that older adults who continue to be productive, active, and involved in society are happier, live longer, and age more successfully (Wurtele, 2009). Therefore, participating in activities is vital for positive well-being in later life.

Two focal concepts of the activity theory of aging are activities and roles. The theory states that people employ activities and roles as means to assist in developing a sense of self. As one ages, he or she is likely to relinquish activities and roles, and thus could experience a loss of one's identity (Kossuth & Bengtson, 1988). This is the part where the activity theory suggests that finding substitute activities is crucial. Older adults achieve an active life and

positive well-being by taking on productive roles such as volunteering, a membership in organizations and social groups, or replacing roles that were lost. Activities play a restorative role for older adults who participate in activities that are replaced from previous roles and activities. Activity theory of aging sees that the best way to accommodate to changing circumstances in old age is to participate in activities that promote various types of social interaction (Havighurst, 1961; Nilsson, Bülow, & Kazemi, 2015). Activity participation which naturally renders for interactions with others, could affect a person's self-esteem and self-evaluation in an impactful way. Being active can offer a chance to change and recognize their own aging identity for older adults. Having opportunities for developing relationships when one participates in activities, is likely to provide role support, which then leads to a chance for encouraging affirmation of one's role performance, and thus the well-being of older adults. For older adults, being actively engaged and involved in life is important to help prevent decline of well-being (Lemon et al., 1972; Reitzes, Mutran, & Verrill, 1995; Winstead et al., 2014). In short, activity theory sees role loss and role change, such as retirement and widowhood, as one of the vital issues that greatly influence positive well-being in later life. Therefore, the theory emphasizes that activity participation provides opportunities for role support, which in turn contribute to one's

positive self-concept, and thus decrease negative aspects of mental health like depressive symptoms and increase life satisfaction.

Additionally, in the discourse of activity theory, deliberating the characteristics of activities is needed because researchers tend to vary in their adoptions of activity types in the studies. The concept of social activity can be very broad. Studies have defined and conceptualized social activity in various ways. Research on older adults has used social activity, social participation, social network, social involvement, and social engagement within similar contexts,⁴ and social activity tends to be defined operationally for each research, depending on the research purpose. Although there is agreement on how important it is to investigate social activity and engagement when observing older adults' well-being, specific foci adopted by scholars have been varied. Some researchers characterized social activity and its related terms

⁴ Some examples are as follows: Bukov, Maas, and Lampert (2002) defined social participation as "socially oriented sharing of individual resources" and they contemplated this concept along with activity levels, illustrating that retired men could be involved with political activities and women could be involved with grandchildren care and volunteering outside the home (p. P510). They argued that social participation of older adults is being at work in conjunction with actions where individuals share their resources with others.

While observing, activity, social network, and well-being, Litwin (2000, 2001) saw social networks as the collection of interpersonal relations that people maintain in diverse contexts, and deliberated that social network is represented by sets of social relations that involve interactional components like measures of contact frequency.

Often adopted as the opposite concept of social isolation and social withdrawal in aging research, social involvement could be conceptualized as older adults' active pursuit of connecting with others and the environment psychologically and physically; and social engagement can be referred as the maintenance of social connections and participation in social activities (Abu-Rayya, 2006; Bassuk, Glass, & Berkman, 1999).

according to its purpose. For example, Stolle and Rochon (1998) divided social groups and social activities into seven sectors as in political activities, economic association memberships, group rights, community, cultural associations, personal interest groups, and social-leisure activities, depending on the purpose of the group activity.

For the present study, first, suggestions by one of the pioneers of activity theory, Lemon and colleagues, were considered. In their process of developing activity theory, Lemon et al. (1972) proposed three distinct activity types. They observed the activity occurrence into three areas, i.e., informal, formal, and solitary activity. Informal activities are those promoting intimate social interactions and engagements such as meeting relatives, friends, and neighbors. Formal activities involve organizational activities such as volunteering at an organization, going to continuing studies institutions for seniors, and participating in political/interest groups. Solitary activities are those one can do alone such as reading books or watching TV. Lemon et al. (1972) suggested that activity of an informal nature or interpersonal activity within intimate relationships might be more favorable when it comes to reinforcing individual's positive self-concept. Although numerous studies have been producing evidence that social activity is positively related to well-being, whether informal activities are more favorable in enhancing well-being, as Lemon et al. suggested, is not agreed upon and the results have been

inconsistent. In their meta-analysis, for example, Okun and his colleagues found that informal activities are not related to subjective well-being more strongly than formal activities (Okun et al., 1984). Other researchers have adopted different approaches. Rowe and Kahn (1999) saw social activity as ‘relations with others’ and ‘the continuation of productive activity.’ Some scholars divided activities into productive activities such as participating in the paid workforce and leisure activities such as participating in sports activities at a seniors center. Others also have suggested categorizing activities in terms of physical activities that involve actually using one’s body, not reading books, etc. and social activities that include interactions with others such as church-going, meeting friends and families, and the like (e.g., Adams, Leibbrandt, & Moon, 2011; Keith, 1981; Morgan et al., 1991).

When Adams and colleagues (2011) reviewed investigations on social and leisure activity and its relation to well-being that were published between 1995 and 2009, they found that most of the studies examined two or three domains of activity such as formal, informal, and solitary social activities, or productive and leisure activities, in relation to well-being and health. In their analysis, the findings showed that the majority of the research adopted activity domains as in social (sometimes further specified as formal activity and informal activity), leisure, productive, physical, solitary, and others. The investigators further elaborated that each category of activity domains

establishes different characteristics of social and leisure activity (e.g., social activity and solitary activity are divided according to the social context), although theoretically any activity can be categorized as social or solitary. Korean literature on social activity also adopted various approaches. For example, Park and Won (1994) provided narrow and broad definitions of social participation and even job searching activities were included in the broad definition of social participation, while Park and Lee (2006) included making phone calls to friends, neighbors, and relatives as well as going to the movies and sports games in their definition of social activity. Kim and Lee (2008) defined social activity as activities that are done together with others, not activities a person does by himself or herself, because they saw social activity as interactions between persons.

Because the present study aims to explore married couples' interdependent accounts of social activity participation and contribute to further the activity theory, Lemon and colleagues (1972)' definition of social activity (formal/informal) as well as Kim and Lee (2008)'s definition were adopted. That is, formal activities such as participating in volunteering activities in a group and informal activities such as meeting up with friends are considered as social activity for the study, but not the solitary activities such as reading books. The present study takes the position that solitary activities, which do not involve active interactions with others in a social

setting, do not meet the premise of the activity theory of aging and should not be considered 'social' activity. A considerable number of investigations have defined social activity as 'activities that one does via interactions with others' or as 'activities with others, not activities that one does by oneself' (e.g., Hwang & Kwon, 2009; Kim & Lee, 2008). Although some studies only considered social activity that falls into Lemon et al. (1972)'s 'formal' social activity because, unlike meeting up with relatives and friends, participating in activities such as religious groups, sports clubs, political/interest groups, etc. requires a person's voluntary involvement and active seeking (e.g., Lee, 2015), the present study incorporated formal activity as well as informal activity of Lemon et al. (1972)'s activity types. One of the reasons was because of the nature of the present study. Few research has tapped into investigating interdependent dynamics of social activity participation by married couples in old age while adopting the actor-partner interdependence model, and it is proposed that looking into a broader realm of social activity (i.e., both formal and informal) may render valuable information and more practical insights. It is also suggested that, as a vulnerable group, examining older adult group which is considered to be limited in social activity in general when compared to other age groups, needs to approach social activity participation with a broader concept to attain more meaningful and valid findings.

Additionally, the notion of individual activity and couple's co-activity needs to be mentioned. The present study aims to see if a spouse's individual social activity is related to his or her partner's later life well-being. Therefore, going to church, joining sports clubs, meeting friends, and the like are assumed to be one's individual social activities, not couples' co-activities⁵ and thus married couples' joint social activity is not specifically examined in the study. Still, it should be noted that studies investigating older married couples' mutual support and marital relationship have suggested a need for promoting co-participation of older couples' social activity as a way to improve spousal relations (e.g., Kim & Jun, 1997) and it is a worthy subject to consider in future studies.

All in all, for the present study, formal social activity participation is defined as participating in activities that are regularized or patterned and that involve active interactions with others in a social setting, as well as informal social activity participation is defined as participating in activities that involve

⁵ It should be pointed out that, by utilizing the KLoSA data, the present study could not exclusively observe older married couples' social activity participation as in couples' co-participation and as in couples' individual participation. It is therefore acknowledged that, for example, participating in religious group activities could be done as a couple activity; or when the participants indicated they met friends once a month, it could mean the couple meeting up with their mutual friends together. However, within the limitation of using the secondary data set, the present study could not specify if those were joint couple activities or individual activities; hence, adopted the position of assuming the participants' individual responses of their social activity participation as their own individual experience. Because these aspects of older couples' social activity could not be analyzed clearly in the study, it is suggested that future studies examine it with a more specific data set.

social interactions with friends, relatives and neighbors and are regarded as beyond personal maintenance (Lemon, et al., 1972, p.513).

There have been keen interests in exploring as to how social activity participation is beneficial in later life. Researchers have discovered associations between social activity participation and a number of areas such as self-efficacy, life satisfaction, sense of belonging, delay of physical health decline, reduced depressive symptoms, and decreased mortality (Berkman et al, 2000; Buchman et al., 2009; Hong, Hasche, & Bowland, 2009; Issac et al., 2009; Jang & Chiriboga, 2011; Morrow-Howell et al., 2003; Phinney, Chaudhury, & O'Connor, 2007). Since the activity theory of aging effectively illuminates social activity and 'aging well' in associations with positive and negative aspects of well-being in later life, the present study focused on life satisfaction and depressive symptoms in the following sections.

2.1.2. Social Activity and Life Satisfaction in Later Life

When it comes to investigating well-being in later life, researchers have approached it in terms of specific constructs such as life satisfaction, depressive symptoms, morale, and happiness (e.g., Andrews & Robinson, 1991; Diener, 1984; Varshney, 2007); and life satisfaction has been one of the most explored dimensions in aging literature (George & Clipp, 1991; Krause,

1993). Indeed, one of the key interests of social science sectors such as gerontology, public health, nursing, sociology, and social work that focus on aging well and old age, has been life satisfaction. Life satisfaction can be defined as “a cognitive assessment of one’s progress toward desired goals” in life (George, 1979, p. 210). Diener and his colleagues (1985) also conceptualized that life satisfaction is a “cognitive, judgmental process” and “comparison of one’s circumstances with what is thought to be an appropriate standard” in life (p. 71); and they highlighted that life satisfaction is a global, not domain specific, assessment of an individual’s life satisfaction.

When examining life satisfaction in later life, looking into its associations with social activities is of importance, because when people age they are likely to lose social roles and likely to be put into a position with less involvement in social engagements, which may be linked to the potential for decreasing satisfaction in life (Mutchler, Burr, & Caro, 2003). As emphasized in the previous section of the activity theory of aging, participating in multiple roles could lead to role substitution that could ameliorate the adverse effects of role loss and improve positive affect and satisfaction, such as in the case of older adults who were retired from formal labor force participation as well as older adults entering the transition period, who no longer primarily have to raise children due to older children’s school/work-related pursuit and marriage (Barber, 1989). Older adults who had not been employed outside the home,

and thus who did not necessarily ‘retired officially’ and lost occupational roles, still benefit from active engagements and interactions with others because this social contact satisfies a basic human need for connection (Maier & Klumb, 2005) and allows older adults to keep feeling happy and content by continuing what they have been doing in their middle age (Havighurst, 1961). As stated before, interactions with others and the environment characterize one’s identity and self-concept, and these interactions may shape older adults’ thoughts and behaviors. This could play a significant role in terms of how positively older adults see themselves, and is related to satisfaction in later life. Indeed, partaking in activities means forming new social networks and social interactions and it is a way for older adults to increase their life satisfaction (Boosman et al., 2011; Park, 2009).

Even before the activity theory of aging was formally emerged, scholars have delved into the idea that activity is related to life satisfaction and psychological well-being (Burgess, 1954; Havighurst & Albrecht, 1953; Lebo, 1953). Activity theory was more formally established after the work of Lemon, Bengtson, and Peterson (1972), and since these early conceptualizations, a number of researchers have tried to explicitly identify the nature of mechanisms triggering the relations between activity and life satisfaction. It has been demonstrated in literature that when older adults participate in social activities, the higher their life satisfaction. Warr, Butcher and Robertson

(2004) examined life satisfaction and affective well-being of older adults between the ages of 50 and 74 in relation to social activity. They found that activity was significantly related to higher life satisfaction and well-being, particularly social activities in the family/social as well as in the church/charity domains. Baker and colleagues (2005), using the Americans' Changing Lives survey data, also highlighted that activities are beneficial to older adults' well-being; and investigated the relationships of life satisfaction, happiness, and as such, with regard to activities of older adults aged over 60 years. The results showed a strong link between time-committed to activities and life satisfaction. There is strong empirical evidence of activity theory that supports positive associations between activity and life satisfaction in Korean studies as well (e.g., Hu & Kim, 2011; Kim, 1995; Kim & Kim, 2000; Kim & Lee, 2008; Na, 2004). Overall, these researches advocate a positive relationship between social activity participation and life satisfaction but some results indicated a difference in life satisfaction, depending on the types of social activity (e.g., Hong, 2002; Kim & Lee, 2008). Hu and Kim (2011) analyzed multi-level effectiveness on life satisfaction, and observed effects of physical, psychological, social factors on life satisfaction of 4,032 older adults over the age 65; and social factors such as levels of social activity participation were investigated with regard to life satisfaction. The findings showed that social factors were indeed significant for life satisfaction.

It is true that, since the work of Lemon and colleagues (1972), a growing number of scholars have attempted to provide evidence for the activity theory of aging, and have produced rich examples that support the theory and the positive association between life satisfaction and social activity. However, there are scholars who throw doubts onto the reliability of activity theory and its focus on positive effects of activity in later life. Not all studies were in agreement with the results by Lemon et al. (1972). Longino and Kart (1982), for example, tried to replicate the work of Lemon and colleagues with a different group of people, and found different results. Their findings displayed a negative relation between life satisfaction and participating in formal social activities, and no relation between life satisfaction and participating in solitary activities. Emphasizing that activity theory of aging has produced inconsistent results, Gillespie and Louw (1993) conducted a pilot study with 43 white South Africans aged 62-89 years old, and explored the relationship between activity and life satisfaction. As proposed, their pilot study failed to provide evidence for activity theory. That is, there was no significant link between activity and life satisfaction, although the researchers suggested that the results might be due to a small sample size.

All in all, even though a substantial body of work on social activity theory has proven a positive link between social activity participation and life satisfaction, it appears that the activity theory still needs to accumulate more

research findings, especially from diverse settings. By focusing on Korean married couples in old age and their interdependence in the dyadic setting, the present study could offer further understandings of the theory.

2.1.3. Social Activity and Depressive Symptoms in Later Life

Much research has advocated that there is age-related difference in depressive symptoms; and depression-like symptoms are quite frequently found in older adults (Katona & Watkin, 1995). These depressive characteristics in old age are commonly found in Asian older adults as well, including Koreans (Choi & Jang, 2002; Park et al., 2010). When Korean older adults in the community setting were examined, the prevalence of experiencing depressive symptoms for older adults over the age 60 was high and revealed to be 15.8% (20.4% for females and 11.2% for males) (Ministry of Health and Welfare & Korea Centers for Disease Control and Prevention, 2013). This prevalence rate becomes bigger if older adults in the institutional setting are included. When Health Insurance Review and Assessment Service (2006) in Korea inspected the prevalence of depressive symptoms of older adults in the institutional setting, it was found that 12.7% of older adults were diagnosed as having clinical depression. If older adults being prescribed to antidepressant medicine without official diagnosis are included, the rate goes

up to 20.1%; and the estimated rate of older adults with depressive symptoms becomes approximately 30%. In other words, almost one in every three older adults in the long-term care setting appears to experience depressive symptoms. This high number of prevalence rate shows how important it is to research depressive symptoms experienced by older adults. Therefore, it is of significance to look into as to how depressive symptoms in old age can be ameliorated, especially considering the fact that Korea is the most infamous among OECD countries for its high rate of elderly suicide in relation to increase in geriatric depressive symptoms (Jun, 2010, cited in Heo, 2017, p. 186; Joint Ministry,⁶ 2018).

Social interaction and activity in old age is believed to reduce negative psychological well-being such as depressive symptoms in later life. Earlier research has exhibited that when older adults participate in social activities, they are likely to have lower levels of depressive symptoms (Cacioppo, et al., 2006; Jang & Chiriboga, 2011). Some scholars argue that it is because participating in social activities stimulates multiple bodily systems and strengthen life-long patterns of interactions and attachment (Heaphy & Dutton, 2008). As emphasized previously, activity theory of aging posits that participating in activities in old age is likely to lead one to form new social

⁶ 관계부처 합동 (2018) is translated as Joint Ministry (2018) here.

interactions, and to have substituted roles that can diminish adverse effects of role loss in old age and adverse psychological well-being, while increasing life satisfaction. Also, interacting with others and the environment characterizes one's self-concept and influence one's behaviors and thoughts, which lead to adjustment and well-being in later life. The activity theory literature has demonstrated that older adults' participation in activities has a significant link with lower levels of depressive symptoms along with higher life satisfaction (e.g., Antonucci & Akiyama, 1991; Cacioppo et al., 2006; Lemon, Bengtson, & Peterson, 1972). Participating in activities is beneficial to older adults' psychological well-being, and there are a number of studies indicating a strong association between activities and depressive symptoms (e.g., Baker et al., 2005; Varshney, 2007).

According to activity theory, the decrease in social interaction that is typically accompanied by aging is likely to attribute to older adults' withdrawal from the society; and this withdrawal is viewed as the opposite of the wishes of older adults. When one ages, he or she is forced to relinquish certain interactions due to retirement, the death of spouse, the college/job/marriage-related leave of adult children, or other circumstances; and finding substitutes for those interactions are seen as successful aging and aging well (Havighurst, 1963). Furthermore, social isolation and withdrawal from the society are considered to be the opposite end of social participation

and social engagement. Social isolation involves psychological and physical disconnectedness from people and the community (Victor et al., 2000). It has been reported that when one lacks in meaningful social interactions, he or she is likely to have poorer psychological well-being (Victor et al., 2005; WindRiver, 1993). Therefore, it is vital for older adults to get involved and interact with others. Research has shown that mental health is likely to be positively influenced by social participation that is usually achieved via direct interactions with people; and a number of scholars have documented beneficial effects of social activities and interactions with others in relation to depressive symptoms (e.g., Cacioppo et al., 2006) and happiness and well-being (e.g., Graney, 1975; Thompson & Heller, 1990).

With the data set from the Americans' Changing Lives study, Fiori, Antonucci and Cortina (2006) examined 1,669 adults in the age of 60 and older, to see if support quality predicts mental health. The results revealed that depressive symptoms were highest for older adults in the non-friends network and lowest for older adults in the diverse network. For older adults, social interaction with friends was found to be more effective in decreasing depressive symptoms than contact with adult children. The authors argued that, when in the context of friends, the absence of family is less damaging for older adults and this is a mechanism that affects their mental health. Also, after analyzing the data from 682 older adults aged over 65 living in the community,

Katsumata and colleagues (2012) suggested that, through social interactions with close friends and involving with social engagement, older adults may feel less lonely and are more likely to obtain emotional support, which is a crucial buffer against depressive symptoms. As well, while observing depressive symptoms of Korean Americans, Jang and Chiriboga (2011) found that social activity had a significant beneficial effect on mental health. The researchers suggested that it is important to promote opportunities for social engagement to enhance and protect mental health of older adults. However, there are rather different results for the relation between activity and depressive symptoms as well. Lee and Kim (2014) conducted an investigation to see if social activities are related to a lower risk of depression in later life. With a sample of 3,968 older adults aged over 65, the researchers found that face to face contact with close friends was negatively linked with depression for women, but not for men.

It appears that investigating social activity participation of older adults in relation to depressive symptoms needs to incorporate characteristics that may be generated by different experiences due to gender. As mentioned previously, examining husbands and wives in old age, as compared to other age-group couples, is of importance because older couples' different dynamics could be observed greater according to gender. One's socialization throughout his or her life and the accumulated experiences due to gender could be

manifested different and more prominent for husbands and wives in old age (Ferraro & Shippee, 2009; Settersten, 2002). Therefore, the present study observed husbands' dyadic accounts of social activity participation in relation to wives' depressive symptoms and vice versa. The findings may contribute to further the activity theory with Korean married couples in old age, while exploring diversities in men and women in the marital setting.

2.2. Interdependence of Married Couples in Later Life

2.2.1. Interdependence Theory

Because human life is inherently social, every phenomenon in the social and behavioral sciences are necessarily discussed in the milieu of dyadic group interactions. Kurt Lewin (1948) was the first to define groups in relation to interdependence. He stated that the essence of a group is their interdependence; and one member's move will greatly influence the other members and the group. Hence, if one wants to understand human behavior, it is crucial to look into the nature and the meaning of interpersonal interdependence. In 1959, Thibaut and Kelley postulated interdependence theory and it has been welcomed and utilized by much research, especially in the social sciences sector. Over the years, interdependence theory has been developed into a comprehensive theory on social interaction and human

behaviors (Thibaut & Kelley, 1959; Kelley & Thibaut, 1978; Kelley et al. 2003). The concept of interdependence is very wide-ranging, and it is useful in conceptualizing phenomena in the contexts of dyads, ongoing relationships, and groups. Indeed, almost all social sciences highlighting social interaction could include interdependence as their proposition. The basis of many dominant social norms could be identified in the interdependent situations. As Van Lange (2012) argues, without understanding social interaction and interdependence, it is difficult to delve into phenomena like human cooperation, conflict, or trust.

The interdependent theory included human conditions and analyzing various psychological concepts affected by, as well as influenced, social exchange theory and game theory (Kelley et al., 2003). The theory grew out of as well as made an impact on social exchange theory (in terms of interactions in dyads and groups) and game theory (in terms of conceptual tool, i.e., patterns of exchange, coordination between interaction patterns, etc.). Thibaut and Kelley (1959) stipulated social exchange analysis of individuals' interactions in dyads and groups; and adopted game theory to employ its conceptual tool and a substantial attention was paid to the investigation of dependence, needs, power, rewards, costs, and outcomes in exchange relations. Interdependence theory provides a fresh perspective because it does not just account for one person's experience. For example, the theory does not

analyze accounts of a wife in an abusive relationship only in terms of the wife's characteristics and try to explain it as her low self-esteem or learned helplessness. Instead, it places explanations for both parties within the interaction (Rusbult & Van Range, 2008). Therefore, it is an especially useful tool in illuminating couple interactions as to how each person's actions and motives influence the other person's actions and motives in the dynamic process.

Interdependence theory is a very accommodating framework for grasping dyadic interaction, while allowing it to be joined with other theoretical perspectives. For instance, from the perspective of interdependence theory, adult romantic attachment and relationship satisfaction can be understood as three parts: as being related to one's own attachment anxiety, to his or her romantic partner's attachment anxiety, and to the combination of both party's attachment anxiety (Wickham & Knee, 2012). As well, the theory provides a basis for developing unique intervention strategies. In the case of the above example of the wife in an abusive relationship, one of the foci of the intervention strategy could be about improving the wife's quality of economic alternatives in that relationship, by catering to her situations such as increasing her chances for education opportunities, job training, and driving lessons; as well as having the husband as the main focus in the intervention program.

2.2.2. Interdependence of Married Couples in Later Life

In the previous discussion, it was emphasized that human life is inherently social and one's well-being and life satisfaction is deeply related to and influenced by interactions and relationships (Ainsworth, 1985; Baumeister & Leary, 1995; Bowlby, 1958). As one of the longest and the most influential relationship, married couples in old age are crucial relationships to investigate. Particularly, marital relationships play a significant role in one's life in terms of physical, psychological, familial, and financial outcomes that are integrated into overall life satisfaction (Fincham & Beach, 2010).

A person's journey of aging does not just take place on their own but get affected by close people around them, especially his or her significant others. It has been thus highlighted in the past research that each older adult in a marital relationship play a vital role in shaping their marital partner's developmental trajectories (e.g., Baltes & Staudinger, 1996). According to the interdependence theory, married couples have a spousal interaction effect, and the behavior of a spouse is decided by the reaction from his or her spouse; and these may evolve into a distinct mould of interpersonal regulation in the long term (Kelley et al., 2003). Therefore, when it comes to married couples, the longer the couples have spent time together the more prominent spousal interdependence is, such as in old age couples. Research has indeed

emphasized that older married couples, who are likely to be in the marital relationship a lot longer than their younger counterparts, tend to show stronger interdependence with each other. For example, when positive and negative aspects of marital interaction of middle-aged couples and older married couples were compared, Henry and colleagues (2007) found that spouses in old age play a more significant part in shaping depressive symptoms. Older couples' marital satisfaction was more likely to be influenced by their spouse's 'negative behavior in general' as well as 'negative and positive behavior in the disagreement task' than their younger counterpart couples. As well, one's married life in old age after retirement can be very different from the pre-retirement life. Unlike married couples in different age groups, older couples may come to spend their time together all day long, and they are likely to face a need for making decisions on every aspect of their life together (Lee & Kim, 2014). This may become stressful for both husband and wife, and the couple needs to adapt to new situations; and thus, this aspect of elderly couples' relationship needs a specific attention in pursuing and maintaining a healthy, satisfied life in old age.

Therefore, for studies examining married couples in later life, it is essential to investigate the effect of the spouse also, not just the wife or the husband individually. Here, the interdependence theory plays a great role in providing the theoretical backgrounds for explaining why couples are

influenced with each other, as well as for examining as to which behaviors and attitudes of couples are affecting the relationship. The theory shows, in particular, how this imperceptible inter-personal effect influences the relationship between the couples. Examining interdependence is vital in relationships of married couples because it introduces various types of relationships within couples, as well as explains the past, clarifies the present, and predicts the future interactions (Arriaga, 2013). Older married couples experience various environmental circumstances together while interacting with each other on a daily basis, and they share a long history of mutual experiences and thus know much about their spouse's strengths and weakness (Hoppmann, Gerstorf, & Luszcz, 2011; Lang, 2001). In that vein, Hoppmann and colleagues (Hoppmann & Gerstorf, 2009; Hoppmann, Gerstorf, & Luszcz, 2011) proposed a theoretical framework of spousal interrelations for older couples. They attempted to explain the mechanisms behind aging outcomes of spouses in relation to well-being and health, and offered four fundamental features: gain-loss dynamic, dynamic and idiosyncratic, active agents, and individual difference. Essentially, the researchers claimed that (a) spouses may buffer their partner's challenges and difficulties together but also spouses can make their partner vulnerable in negative aging outcomes such as cancer (gain-loss dynamic); (b) older couples are likely to be closer to each other than when they were in the earlier marital relationship and they work on elevating their

emotional climate. Married couples in old age share accumulated experiences like becoming a grandparent as well as losing an employment (dynamic and idiosyncratic); (c) it should be understood that each participant of the marital relationship actively and reactively engages in pursuit and provision of help/cooperation from their partner during times of need, and mould their own development (active agents); and (d) spouses' gender, personality, resourcefulness, and others affect spousal and social interrelations that are shaped across adulthood and old age (individual difference). These insights may help understand how older married couples' interrelationships have been shaped in the married life history.

In their longitudinal analysis, Hoppmann, Gerstorf, and Hibbert (2011) found that spouses' depressive symptoms do not just show similar baseline levels but their levels of depressive symptoms increase and diminish together. This advocates Kenny and colleagues (e.g., Kenny, 1996, Kenny, Kashy, & Cook, 2006) who suggested that spousal interactions are highly interdependent and they are not merely an instance of compositional effects. A 'compositional effect' means that dyadic members are not paired randomly, as in the case of married couples, but rather the two members are likely to be paired because they are similar (e.g., educational level, socio-economic status) in the first place. Here, they additionally suggested three more sources that might affect the interdependence of couples in a dyad, namely, partner effects,

mutual influence, and common fate. When a husband's certain behavior or characteristic (e.g., drinking behavior, short temper) plays a role in decreasing levels of the wife's marital satisfaction, it can be called 'partner effects'. When the outcomes of both husband and wife directly affect each other via a process of feedback, it can be called 'mutual effect'. For instance, if the husband's depressive symptoms get worse, through feedback between the couples, the wife's depressive symptoms become negatively affected, and vice versa. When both husband and wife are under the same influence, that is, exposed to the same causal factor (e.g., living in a crime-ridden neighborhood), it can be called 'common fate.' These suggestions by Kenny and colleagues on the basis of couples' interdependence are useful in understanding older married couples' dynamics in this study. The present study is interested in partner effects, in particular. It aimed to explore the associations between husband's behavior (i.e., social activity participation) and wife's life satisfaction/depressive symptoms as well as the associations between wife's behavior (i.e., social activity participation) and husband's life satisfaction/depressive symptoms.

Furthermore, Rosenberg and colleagues (1968) state that interactions with others can be experienced in numerous ways. In a stable relationship, positivity can be attained by amplifying each other's unmet needs and reducing negative experiences. Also, these positive and negative interactions

could result in just positive effects in the long run, where negative interactions (e.g., conflict) can function as a vaccination for similar situations that could be encountered in the future (McNulty, O'Mara, & Karney, 2008). Positive and negative aspects of older couples' dynamics should not be regarded as the opposite end result (Hoppmann & Gerstorf, 2009). This is one of the reasons why looking into married couples' interdependent dynamics in old age could be of significant in understanding later life well-being. Furthermore, in a study by Tower and Kasl (1996), it was argued that spousal interactions in old age could be more negative because many negative aspects of aging such as cognitive decline, deteriorating health, sensory loss, and monetary strain, could strengthen distress. Within that context, a destructive spiral can be generated, and one spouse's overall well-being could easily be influenced by the other spouse's experiences via reinforcement of negativity and its increased expectation. It has been argued that even spouses with little depressive symptoms can be significantly influenced by high levels of adverse interactions between spouses (Gotlib & Hammen, 1992). In other words, this means that one spouse's negative emotional well-being can be eroded by generating positive influence from the other spouse. Nonetheless, there seems to be a paucity of knowledge about the bases and multidimensional accounts of these associations when it comes to spousal relationships, who in general tend to be highly interdependent (Fincham & Beach, 2010).

Additionally, by investigating older married couples in Korea, different cultural and social aspects of the married couples' interdependence could be explored and contemplated in this study. For example, although findings in other countries indicate that spouses in old age often feel closer to each other than when they were young and thus the couples try to improve their relationship and emotional well-being (Walker et al., 2011) and resolving conflict is more affectionate and less emotionally negative for older couples than younger couples (Carstensen et al., 1995), there are studies focusing on different aspects of spousal interactions in Korea. While bringing up an increasing number of newspaper articles on older couples with retired spouses in Korea, Kim, Lee, and Lee (2013) suggest that wives with retired husbands may feel uncomfortable and stifled due to having to spend time together all day long because older married couples in Korea are often not used to communicating and interacting with each other. They emphasized the need for investigations because not much research has paid attention to marital intimacy and interactions in old age. Traditionally, Korean culture is characterized as patriarchal; and many studies have emphasized that relationships and interactions of couples and family members in Korea are derived from the Confucian norms (Ko, Kim, & Park, 2013). Also, when looking into older married couples, recent societal structure changes as well as retirements of older Korean males, who are traditionally been considered as

the head of household, should be considered (Nam et al., 2015) because this aspect of Korean characteristics may be reflected in older married couples in more complex ways. The rapid social change could have negatively influenced Korean males' mental health and their spousal relationship and needs further research (Ko et al., 2013). Therefore, it is particularly of interest for the present study to focus on Korean older couples' dynamics, and contribute to the knowledge base of this field.

2.2.3. Dyadic Accounts of Married Couples in Social Activity

When the interdependence of married couples started to get attention in recent years, a number of researches have provided noteworthy insights on the couple dynamics. However, thus far, it seems that not much attention has been paid to older married couples' interdependent experiences with regard to social activity participation and its effects. Would it be because one's social activity does not seem intuitively related to his or her spouse's well-being? Perhaps, unlike depressive symptoms of one's spouse, for example, it may be that one's own social activity does not seem like holding a strong hold on his or her partner's later life well-being. Here, the present study aims to provide a footing on this matter.

In the previous sections, it was reviewed that social activity participation is indeed of importance in old age. In fact, it may take up a relatively good part of daily life, especially after retirement in marital interaction settings. Myers and Booth (1996) argued that keeping social interactions and engagements would help one to adjust changes in life and present opportunities to be less vulnerable to marital conflict after retirement. The researchers interpreted that retirement does not just represent a loss of occupational role, but it could also mean the loss of contact with co-workers and others. Thus, it is vital to maintain individual activities by substituting roles the person used to have. In old age, having to interact with friends is even more significant for one's marital happiness because it could lessen the negative aspects of the change. Lee and Shehan (1989) also claimed that it is the interaction with friends that is the strongest antecedent of marital satisfaction for retired husbands and wives. Indeed, after a spouse's retirement, the time spend together between couples would naturally increase and this rise in marital interaction could be a source of 'invasion of privacy' that results in conflict (Keating & Cole, 1980).

Using the Seoul Welfare Panel Data, Kim, Lee, and Lee (2013) analyzed the effect of social activity (as in participating in sports/hobby activities, alumni society/hometown gatherings, family councils, etc.) of 1,992 older married couples on marital intimacy and emotional closeness, and they

discovered that social activity is a significant factor for marital intimacy, mediated by self-esteem. That is, the more socially active the older adults are, the stronger their marital intimacy. Referencing “retired husband syndrome,”⁷ the researchers argued that the wives’ feelings of discomfort and inconvenience after having to spend all day with their retired husband may be something that affects marital intimacy. In their study of examining older adults over the age 60 with at least one adult child, Youn and Kim (1994) found that lower levels of social activity were likely to be related to higher levels of stress, which were in turn linked to marital conflict. Furthermore, when factors affecting marital conflict were examined with older couples aged 60 and over in the investigation by Kim and Lee (2001), the findings showed that social activity participation was only applicable to the husbands, not the wives. The researchers speculated that social activity could be playing a significant role in ameliorating the husbands’ marital conflict because their social role loss after the retirement could be substituted by social activity; and social activity was not related to improving older wives’ marital conflict because the wives were likely to have experienced little changes in their levels

⁷ “Retired husband syndrome” has been in use since the 1980s (Johnson, 1984). Abbreviated as RHS, it has often referred to wives with the retired husband, who may show stress-related symptoms such as agitation, depression, and sleeplessness. When this term was introduced in Japan, RHS became translated as ‘one’s husband being at home stress syndrome,’ representing older wives’ physical and psychological health being affected by their retired husband (Kenyon, 2006).

of social activity participation. Their speculation seems to emphasize one of the views, illustrating the working of the activity theory with regard to retirement and role substitution. It could be that, when it comes to marital conflict, social activity and its influence on fulfilling a basic human need for connection and characterizing one's identity (Maier & Klumb, 2005) are not as much prominent as gaining role substitution and role support after retirement.

Taking all the above research on marital interactions in old age, it appears that countries that have gone through the aging of their society, such as Canada and the U.S., have actively examined negative and positive aspects of marital interactions in later life, while Korea is at its beginning, as demonstrated by the lack of research on older couples when compared to young and middle-aged married couples. However, it is clear that an increase in the ratio of older married couples in Korea, along with social/cultural changes and subsequently its societal issues related to negative aspects of marriage life in old age (e.g., twilight divorce⁸) have been getting much attention in the past few years (e.g., You & Jung, 2018). These investigations, however, seem to have mostly paid attention to marital conflict and other negative aspects of marital interaction in later life. Although only few studies

⁸ Twilight divorce refers to divorce by older couples who have been married more than 20 years. The statistics indicate that it is on the rise (Statistics Korea, 2019b).

have examined social activity participation of older married couples with regard to its influence on marital relationship and later life well-being, what is noticeable is that older couples in Korea are often times not accustomed to interacting and communicating with each other, having to live their whole life in a family-centered Korean society (Kim, 2004). Especially older wives may feel uncomfortable being with their retired husband for a longer period than before. In old age, a retired spouse (older husbands in most cases) seems to benefit from actively participating in social interactions and taking up social roles while substituting their role loss, and this appears to have a positive effect on satisfaction in marriage by reducing stress and ameliorating marital conflict (e.g., Kim & Lee, 2001; Youn & Kim, 1994). In the case of a spouse who does not necessarily experience role loss due to an official retirement (older wives in most cases), social activity participation may provide an opportunity to take a breather from having to spend all day with the retired spouse. Or, if the retired spouse is active in social gatherings outside the home, it may provide a breather, a sense of privacy, for the spouse at home, too. Even though there is few direct research that can support dyadic effects of social activity within the marital setting, previous research findings demonstrating that higher levels of social activity in old couples are related to stronger marital intimacy and satisfaction in marital relationship (e.g., Kim et al, 2013) could provide a base for the present study.

Emphasizing again, it should be taken into account that there could be variations between husbands and wives when it comes to the characteristics and predictors for life satisfaction and well-being. Researchers have suggested that husbands and wives may experience things differently (e.g., van Solinge & Henkens, 2005). What characteristics of married older adults' life are important in determining their positive and negative aspects of well-being? Would a husband and a wife respond in a similar way to social activity participation? What is the extent to which the husband and wives influence each other in the process of adjusting to retirement and marital interactions in old age? Looking into answers for these questions may provide a basis for developing and fostering intervention programs for active aging or later life well-being.

All in all, it appears that previous investigations failed to consider the interdependence of spousal relationship when delving into social activity of married couples in later life. Therefore, the present study employed the Actor-Partner Interdependence Model (APIM) that could illuminate the dyadic accounts of activity participation of a husband on the positive and negative well-being of his wife, and vice versa.

2.3. Actor-Partner Interdependence Model (APIM)

In social sciences sector, as highlighted previously, couples in marital relationships have one of the strongest associations on overall well-being and life satisfaction. When investigating couples as a dyad in later life, one should not forget that there is a strong, intimate, interdependent interactional relationship between the two parties; that dynamic complexities exist in spousal interactions that are inherent; and that the levels of interaction and interdependence increase as the couples spend time together for a longer period of time, such as in the case of older married couples. As pointed out by Kenny and colleagues (Kenny, 1996; Kenny & Nasby, 1980), interdependent responses of feelings, behaviors, perceptions and the like between couples such as a husband and a wife in a dyad setting should be examined carefully, as the couples are likely to be similar in age, educational attainment, socioeconomic status, and communication style; and the couples share the same familial atmosphere as well as the experiences of interacting with children and relatives. When a researcher observes correlations of the two participants and one participant's scores reflect the other participant's score, then the data are considered to be interdependent. Because of the shared experiences, examinations based on these participants such as married couples cannot be completely independent. This violation of the independence assumption makes testing statistics inaccurate as well as the estimation of

statistical significance biased, and can result in seriously overestimating *p*-values (Cook, 1998; Cook & Kenny, 2005). Therefore, a number of studies highlighted that data from husbands and wives should be recognized as non-independent (e.g., Barnett et al., 1993; Sanford & Rowatt, 2004). Nevertheless, a considerable part of literature investigating couple relationships has adopted insufficient and inappropriate methods and ended up obtaining limited findings. As well, although a relatively large body of research has investigated interpersonal processes related to life satisfaction and depressive symptoms, a systematic theoretical and measurement model for conceptualizing and measuring individual as well as dyadic processes as married couples, still remains as the areas that need to get delved into.

In that vein, Actor-Partner Interdependence Model (APIM; Kashy & Kenny, 2000; Kenny, 1996; Kenny & Cook, 1999; Kenny, Kashy, & Cook, 2006) is one of the most informative models that attempt to investigate this dyadic aspect of interdependence in interpersonal relationships. Since its conception in the 1990s, the APIM has become an actively accepted method for analyzing dyadic data and has been increasingly utilized in research, especially, on the family and couples. A number of scholars have scrutinized interactions between parent and child, romantic couples, and siblings by employing the APIM (e.g., Campbell & Kashy, 2002; Rayens & Svavardottir, 2003). When one's behavior, emotion, or cognition has an effect on his or her

partner's behavior, emotion, or cognition, then this relationship can be called interdependent (Kelley & Thibaut, 1978; Kelley et al., 2003). In an interdependent relationship, the participating two individuals are correlated and thus, if one person's score is known in research, it can provide information about his or her partner's score. Hence, for example, it can be predicted that answers of husbands and wives are likely to be positively correlated for marital satisfaction scores. This connection of scores is referred to as non-independence of observations (Cook & Kenny, 2005). Figure 1 demonstrates the actor-partner interdependence model.

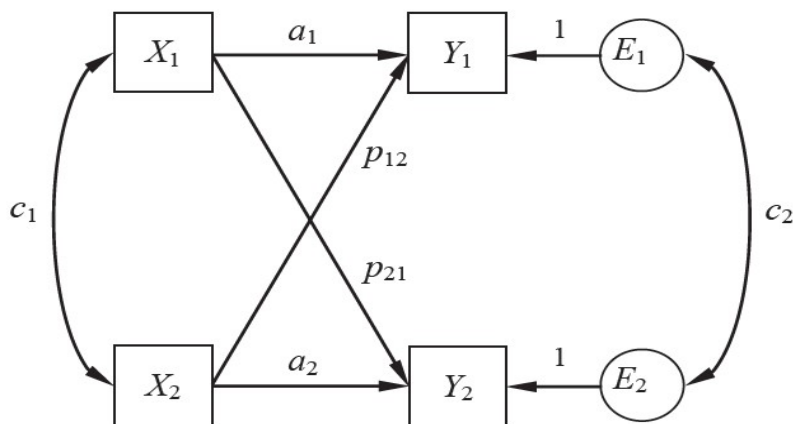


Figure 1. The Actor-Partner Interdependence Model (APIM)

Note: Variables X_1 , X_2 , Y_1 , and Y_2 indicate measured variables; a_1 and a_2 show actor effect; p_{21} indicates the partner effect from X_1 to Y_2 ; p_{12} indicates the partner effect from X_2 to Y_1 ; E_1 and E_2 denote errors; and c_1 and c_2 are covariance (Kenny & Ledermann, 2010, p. 361).

APIM is a model of dyadic relationships that incorporates a conceptual notion of interdependence within relationships of two persons. It provides statistical techniques to test and measure dyadic relations. APIM takes on the view that individuals in dyadic relationships affect each other because they are in the same interpersonal system, while measuring the husband's relationship with his wife is not the same as measuring the wife's relationship to her husband (Cook, 1998). APIM considers the dyad as the unit of analysis; and thus, by adopting this model, a researcher can estimate the effect of one's self-reports on his or her own behavior (actor effect) as well as his or her partner's behavior (partner effect) simultaneously and independently (Campbell & Kashy, 2002). It is indeed useful in exploring the influence of one's own causal variable on his or her own outcome variable and on the outcome variable of the partner. These two effects can be measured when the interacting two parties are interdependent (Kenny, Kashy, & Cook, 2006). In dyadic analysis, considering whether dyad members are distinguishable or indistinguishable is of importance as well. When there is no order in two members of a dyad, it is called indistinguishable (e.g., identical twins, same-gender romantic partners). When there are some dichotomous variables that differentiate the two parties of the dyad (e.g., parent and child, coach and athlete) and when including this dichotomous variable results in a better reproduction of the given data than treating the two as indistinguishable, then

these two members of the dyad are said to be distinguishable (Kenny & Ledermann, 2010).

There have been a number of interesting findings that illustrated the dyadic connections between couples and family members, while using the APIM. Ko and Lewis (2011) examined a mediator role of perception of receiving emotional support on the association between one's emotional support and his or her partner's depressive symptoms, based on 423 couples from the Changing Lives of Older Couples study data. They found that husbands' giving emotional support had an effect on wives' perception of receiving emotional support, which in turn influenced wives' depressive symptoms. Likewise, wives' giving emotional support had an effect on husbands' perception of receiving emotional support, which in turn influenced husbands' depressive symptoms. Bretz (2009) investigated 92 childless couples in their early years of marriage in relation to attachment style, psychological abuse, conflict resolution strategies, and relational quality. By adopting the APIM, it was found that the husbands' psychological abuse was negatively related to the wives' relational quality; and the wives' psychological abuse was negatively related to the husbands' relational quality. Also, Chung and her colleagues (2009) analyzed 58 couples with heart failure patients to see if the patients' emotional distress such as depressive symptoms is likely to contribute to his or her spousal carers' quality of life within the

APIM. Findings showed that spousal carers' depressive symptoms had a significant effect on the patients' quality of life. It was suggested that, when developing intervention programs for reducing emotional distress and enhancing quality of life, it is necessary to include both heart failure patients and their spousal carers.

There are interesting findings that employed APIM with Korean participants as well. Yang and Shin (2014) examined the actor and partner effects of self-esteem and family stress on depressive symptoms among 133 married couples between ages 40-60 in Korea. The findings indicated that the wives' levels of family stress had an effect on the husbands' depressive symptoms. On the other hand, the husbands' levels of family stress did not have an effect on their own depressive symptoms, although there was a significant association between family stress and depressive symptoms that was mediated by the husbands' self-esteem. The researchers suggested that programs for middle-aged couples should focus differently for husbands and wives. When dementia preventive behaviors of 115 older couples with 60 years of age and older were explored in regard with dementia knowledge, self-efficacy, and depression; it was found that older couples' dementia knowledge had actor and partner effects on dementia preventive behaviors in the APIM, although each couple's effect did not follow the same path all the time (Ko & Shin, 2013). In other words, husbands' knowledge on dementia was likely to

affect wives' dementia preventive behaviors; and wives' knowledge on dementia was likely to affect husbands' dementia preventive behaviors. It was recommended that dementia preventive activity programs should be administered to both husbands and wives, while focusing differently for each spouse's diverse path. Jang and Kawachi (2018) looked into positive spillover effects of educational attainment on mental health within older spousal relationships, using the KLoSA data. After taking up the APIM, 3,412 marital dyads over the age of 45 were analyzed. Findings uncovered that husbands' educational attainment was negatively related to wives' depressive symptoms, while wives' educational attainment was not related to husbands' depressive symptoms. Altogether, it appears that actor-based explanations can be quite limited if not looking through other lenses such as the APIM. Thus, having interdependence-based examinations of married couples may provide unique and useful intervention strategies.

CHAPTER III. RESEARCH MODEL AND HYPOTHESES

3.1. Research Model

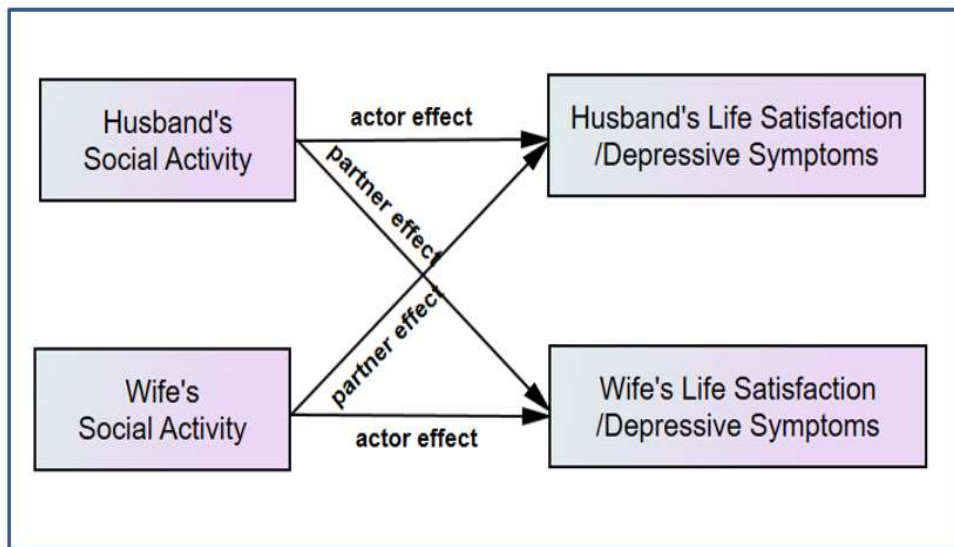


Figure 2. The basic overlook of the APIM with variables of the present study

Figure 2 illustrates the basic actor-partner interdependence model of the present study when the predictor variable and outcome variables are entered. Actor effects are examined by looking at the relationship between husband's social activity participation and husband's life satisfaction/depressive symptoms as well as the relationship between wife's social activity participation and wife's life satisfaction/depressive symptoms. Partner effects are examined by looking at the relationship between husband's

social activity participation and wife's life satisfaction/depressive symptoms as well as the relationship between wife's social activity participation and husband's life satisfaction/depressive symptoms.

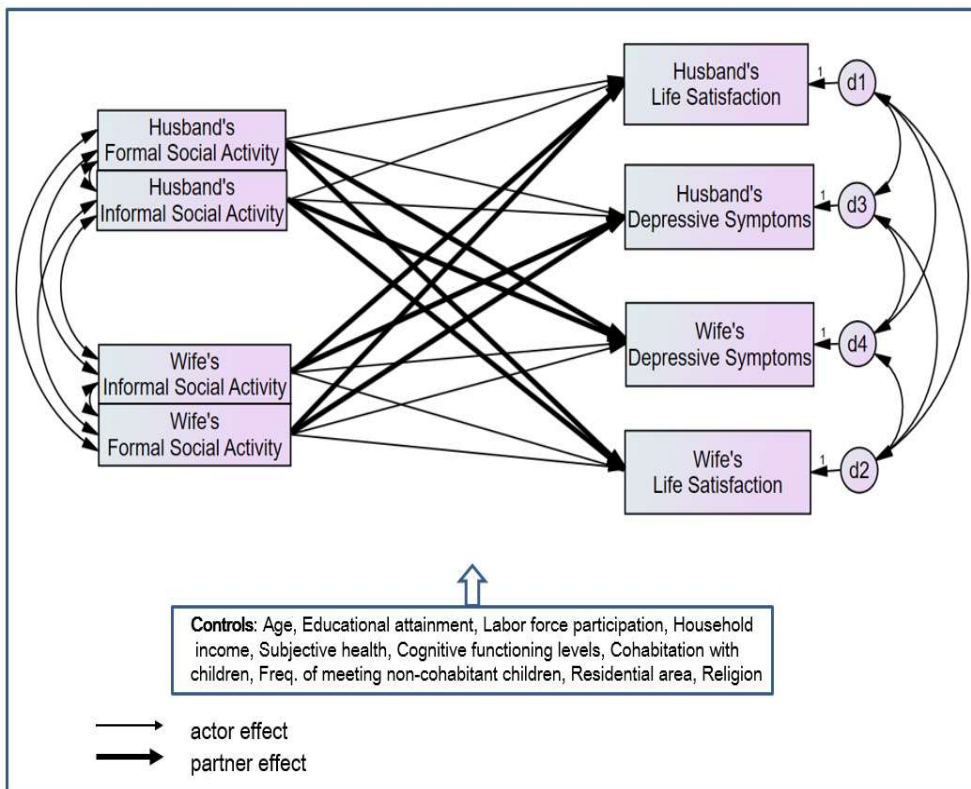


Figure 3. The research model

Figure 3 shows the research model for the study, while confounding variables, i.e., age, educational attainment, labor force participation, household income, subjective health, cognitive functioning levels,

cohabitation with adult children, frequency of meeting non-cohabitant adult children, residential area, and religion, are controlled. As can be seen in the figure, the present study was interested in individual (actor) and dyadic (partner) accounts of married couples in later life, in relation to social activity participation (as in formal social activity and informal social activity⁹) and life satisfaction/depressive symptoms. The main research questions presented in the introduction chapter were the following: First, is social activity participation of married older adults related to their own life satisfaction and depressive symptoms? Second, is social activity participation of married older adults related to their spouse's life satisfaction and depressive symptoms?

3.2. Research Hypotheses

The following hypotheses were generated to examine actor and partner effects of social activity participation on life satisfaction and depressive symptoms of older married couples:

⁹ As indicated in the review section of the social activity theory of aging previously, the present study partially took Lemon and colleagues (1972)'s types of activity. That is, both formal social activities such as participating in religious group activities, joining sports activities, and going to continuing studies for seniors as well as informal social activities such as meeting up with friends are considered for the study.

		Hypotheses
Actor Effect	H1a	Levels of social activity participation of the husband are likely to be positively related to his own levels of life satisfaction.
	H1b	Levels of social activity participation of the wife of are likely to be positively related to her own levels of life satisfaction.
Partner Effect	H2a	Levels of social activity participation of the husband are likely to be positively related to his wife's levels of life satisfaction.
	H2b	Levels of social activity participation of the wife are likely to be positively related to her husband's levels of life satisfaction.

		Hypotheses
Actor Effect	H3a	Levels of social activity participation of the husband are likely to be negatively related to his own levels of depressive symptoms.
	H3b	Levels of social activity participation of the wife are likely to be negatively related to her own levels of depressive symptoms.
Partner Effect	H4a	Levels of social activity participation of the husband are likely to be negatively related to his wife's levels of depressive symptoms.
	H4b	Levels of social activity participation of the wife are likely to be negatively related to her husband's levels of depressive symptoms.

CHAPTER IV. METHODOLOGY

4.1. Study Data and the Participants

This study utilized the sixth wave data set from the Korean Longitudinal Study of Aging (KLoSA) that was conducted in 2016. The KLoSA is an ongoing panel survey observing socioeconomic, psychological, and physical aspects of aging of Koreans aged over 45 years living in the community, with the Computer Assisted Personal Interviewing (CAPI) method. The first wave of the survey was launched in 2006, and the data are collected every two years. To ensure nationwide representation, participants are chosen randomly with a stratified probability sampling design from the households representing geographical areas, including urban and rural areas.¹⁰ The panel was developed while benchmarking Health and Retirement Survey (HRS) of the U.S., English Longitudinal Study of Ageing (ELSA) of the U.K., and Survey of Health, Ageing and Retirement in Europe (SHARE) of the E.U; and thus it is easily applicable for international comparative studies (Korea Employment Information Service, 2017).

In the baseline survey of 2006, the original panel interviewed 10,254 individuals from 6,171 households; and for the fifth wave in 2014, about 1,000

¹⁰ The residents of the Cheju Island were not included due to survey inconvenience.

participants were added in order to accommodate the aging of the panel representation and to meet research data demands on baby boomers. The sixth wave, which the present study analyzed, followed up in 2016 with 8,993 individuals of the original panel, along with newly recruited 920 participants; and 7,893 individuals¹¹ were successfully interviewed, representing 79.6% of the panel (Korea Employment Information Service, 2017, p. 9). For each KLoSA data collection, all participants were provided informed consent.

The target population for this study was: a) older adults who were being married¹² at the time of the sixth wave KLoSA survey was conducted; b) older adults aged 60 years old and over¹³ who live in the community, i.e., not in the residential setting. One of the reasons for including older adults aged 60 years and over, not 65, is to reflect the social activity opportunities older adults encounter in daily life, within the current elderly welfare services in Korea.¹⁴ Moreover, participants aged 60 years and over were selected because

¹¹ ‘7,893 individuals’ include the surveyed responses for the individuals who were deceased.

¹² The KLoSA includes couples in a common-law relationship in the ‘being married’ option as well (Korea Employment Information Service, 2017).

¹³ In the sixth wave of the KLoSA, the structured data set provides Korean age (i.e., 2016 – birth year +1). For this study, the participants’ age was re-calculated in order to reflect the international age rather than Korean age. That is, the participants’ birth year was subtracted from year 2016 (the year the survey was conducted).

¹⁴ For example, according to the Guidebook of Social Welfare Service for the Aged, the age one can apply and participate in programs for Seniors Welfare Centers is 60 years old. Also, it is the age 60 when one can receive the early screening test for dementia and related cognitive health services that are provided by public health centers in the community (Ministry of Health and Welfare, 2019).

the present study aimed to observe a boarder representation of older adults so that the findings could be more applicable for developing and enhancing potential programs for later life well-being and as such. Applying these criteria, the number of initial participants for the study was 3,892, out of the total 7,490 participants¹⁵ of the sixth wave. Then, these selected participants were paired up as dyadic married couples by restructuring the data set, using the couple identification as an indicator. The final participants for the individual and dyadic investigations of the present study were 1,631 dyads (3,262 individuals).

4.2. Measurements

4.2.1. Social Activity Participation¹⁶

¹⁵ The KLoSA provides three kinds of data sets: raw data, restructured data, and light version. The present study utilized the restructured data set, and the total number of cases for this data set was 7,490.

¹⁶ It should be noted that, by utilizing the secondary KLoSA data, the present study was not able to make sure the participants' responses for 'formal social activity participation' and 'informal social activity participation' were mutually exclusive. Although there may be some degree of grey area between participating in social gatherings such as Gye-mo-im activities (formal social activity) and meeting up with friends and neighbors (informal social activity), the present study followed the definition by Lemon and colleagues (1972) and concluded that there is certainly a distinction between the two at least in terms of regularized or patterned aspects. The scholars defined that activities that are regularized or patterned as well as that involve active interactions with others in a social setting as 'formal social activity'; and activities that involve social interactions with friends, relatives and neighbors and are regarded as beyond personal maintenance as 'informal social activity.' Certainly, meeting friends can be casual and impromptu, and can change meet-up schedules any time, while Gye-mo-im

Formal social activity participation. Formal social activity participation was assessed from the six indicators (“Do you have any participating activities in the following categories? If so, please answer for each category.”; (1) participation in church/other religious groups, (2) participation in social gatherings (e.g., ‘Gye-mo-im,’¹⁷ Nho-in-jeong[Senior Citizens’ Center]), (3) participation in leisure/culture/sports clubs including continuing studies for seniors, (4) participation in alumni society/hometown gatherings/family councils, (5) participation in volunteer groups, and (6) participation in political/citizen/interest groups). Each indicator was answered with yes (= 1) or no (= 0). The participants also responded with their participation frequency as in 1 = “almost everyday (more than four times per week)”, 2 = “once a week”, 3 = “two or three times a week”, 4 = “once a month”, 5 = “twice a month”, 6 = “once or twice a year”, 7 = “three or four times a year”, 8 = “five or six times a year”, 9 = “hardly participate in a year”, 10 = “almost no participation”.

always follows a certain meet-up schedule and is not likely to change its schedule at an instant notice.

¹⁷ ‘Gye-mo-im’ is a unique social gathering in Korea where participating members meet up on a regular basis such as once a month. This gathering is usually organized among friends, neighbors, and acquaintances; and typically has a purpose of promoting friendship as well as working as a mutual financial aid. Each person contributes to a central fund, and all the money gathered for each meet-up goes to a designated person for that particular meet-up; and the monetary interactions take turns for every meet-up. The order of receiving the fund each month is usually set by lot or bidding.

These indicators were recoded into the following: 1 = “almost no participation”, 2 = “hardly participate in a year”, 3 = “once or twice a year”, 4 = “three or four times a year”, 5 = “five or six times a year”, 6 = “once a month”, 7 = “twice a month”, 8 = “once a week”, 9 = “two or three times a week”, and 10 = “almost everyday (more than four times per week)”, to reflect the appropriate frequency level of participation. Then, the participant’s yes (= 1) or no (= 0) was multiplied by the frequency values, and the total values were added to reflect the level of formal social activity participation.¹⁸ The total score could range from 0 to 60, and higher scores reflect higher level of participation. For the husbands and wives, the maximum scores were 38 and 29, and the mean scores were 6.61 and 6.60 respectively.¹⁹

Informal social activity participation. Informal social activity participation was assessed from the one indicator asking, “Do you have close friends, neighbors, or relatives living near by? If so, how often do you meet

¹⁸ It was deliberated that, by multiplying total numbers of participating group into the equation, the original frequency level options (from 1 to 10) became the one with “interval”, but the value of each interval is not the same (e.g., the interval value between 3 and 4 is not the same as the interval value between 7 and 8). However, in order to show the respondents’ levels of social activity participation, multiplying their frequency with the total number of participating group was needed. Other investigations using the KLoSA data also used this method to show levels of formal social activity participation (e.g., Shin, Won, & Noh, 2017).

¹⁹ Because the mean frequency scores of the formal social activity seem to be on the rather low end of the scale considering the maximum scores for the older couples, the total scores of the formal social activity indicators were described here for comparison. The total scores of participating formal activity indicators (religious activity, social gatherings, leisure/sports, hometown/alumni society, volunteering, and political/interest groups) could range from 0 to 6. For husbands and wives, the maximum scores were 6 and 4, and the mean scores were 1.01 and .96 respectively.

them?” The participants answered with their meet-up frequency as in 1 = “almost everyday (more than four times per week)”, 2 = “once a week”, 3 = “two or three times a week”, 4 = “once a month”, 5 = “twice a month”, 6 = “once or twice a year”, 7 = “three or four times a year”, 8 = “five or six times a year”, 9 = “hardly see them in a year”, 10 = “I do not have close people”. These indicators were recoded into the following: 0 = “I do not have close people”, 1 = “hardly see them in a year”, 2 = “once or twice a year”, 3 = “three or four times a year”, 4 = “five or six times a year”, 5 = “once a month”, 6 = “twice a month”, 7 = “once a week”, 8 = “two or three times a week”, and 9 = “almost everyday (more than four times per week)”, to reflect the appropriate frequency level of informal social activity participation. The total score could range from 0 to 9. Both husbands and wives had the minimum and maximum score of 0 and 9, and the mean scores were 6.18 and 6.55 respectively.

4.2.2. Life Satisfaction

Life satisfaction was assessed with participants’ general estimation of their own life as compared to their peers, asking “When compared to your peers, how satisfied are you with your overall quality of life (happiness)?” while showing the cards that showed ten example numbers from “0 (= low likelihood)” to “100 (= high likelihood).” The responses of both husbands and

wives were ranged from 0 to 100, and higher numbers represented higher levels of life satisfaction. For husbands and wives, the mean scores were 63.1 and 62.8 respectively.

In other studies that utilized 1-item life satisfaction scale, the assessments of reliability and validity showed that they are comparable and effective, when compared to multi-item life satisfaction scales (Cheung & Lucas, 2014; Lucas & Donnellan, 2012).²⁰ Therefore, it was deliberated that 1-item life satisfaction scale is suitable for the present study.

4.2.3. Depressive Symptoms

Depressive symptoms were measured with the 10-item short-form of Center for Epidemiological Studies Depression (CES-D10) Scale in the KLoSA. In the cases with surveying older adults, much research prefers a shortened 10-item CES-D instead of 20-item CES-D partially to lessen older adults' burden of responding a longer version (Carpenter et al., 1998). It is broadly used to assess depressive symptoms in non-psychiatric community settings (Lee & Lee, 2014; Jeon et al., 2013). The CES-D10 measures self-

²⁰ When the reliability of 1-item life satisfaction scale was assessed it was found to be over .7 and was thus considered to be suitable for analysis (Lucas & Donnellan, 2012). As well, in the study of Cheung and Lucas (2014), the assessment of life satisfaction with 1-item has produced a comparable level of validity.

reported depressive symptoms experienced by participants during the past week. It includes eight negatively phrased items and two positively phrased items: “In the past week, (1) did you feel like people were unfriendly to you? (2) did you feel sad? (3) did you feel depressed? (4) did you feel that everything you did was an effort? (5) did you feel that you enjoyed life? (6) did you feel like people disliked you? (7) did you feel like your sleep was restless? (8) did you feel like you were as good as other people? (9) did you feel lonely? (10) did you feel like you could not get ‘going’?” The participants were asked these questions with four-point Likert scale. Then, in the KLoSA, they were changed into ‘yes (= 1) and no (= 0)’ to make an added scale that has 0-10 scores in total, which the present study utilized. Higher scores suggest higher levels of depressive symptoms experienced by the participants. When the score is more than 4 point, then participants could be categorized as having clinical depressive symptoms (Irwin, Artin, & Oxman, 1999). Both husbands and wives of the study had the minimum and maximum score of 0 and 10, and the mean scores were 2.87 and 3.01 each. The Cronbach’s α reliability for both husbands and wives were .847 and .834, respectively, showing that each of the items in the CES-D10 contributed to the good internal consistency of the measure.

4.2.4. Control Variables

Potentially confounding variables were included in the analysis as controls, namely, age, educational attainments, labor force participation (participating in the workforce at the time of the survey), household income, subjective health, cohabitation with children, frequency of meeting non-cohabitant children, residential area (the size of the city the participants live), and religion.

Age. It has been documented that age is related to life satisfaction and depressive symptoms. Especially in gerontological research, the assumption that old age is linked with an increased risk of depression is a persisting subject.²¹ Scholars have tried to explain this link with the experiences people face in old age, such as the death of spouse, loss of employment, loneliness, lack of social contacts and interactions, and the like. Older adults are faced with physical, psychological, and social role changes and this may trigger their sense of self and overall satisfaction with life (Kim, 2017; Singh & Misra, 2009). The sixth wave of KLoSA data provide age as in Korean age (i.e., the

²¹ Although there are studies indicate that the relationship between age and depressive symptoms are not linier but fluctuates within age groups or depressive symptoms may decrease with age (e.g., Snowdon, 2001; Jorm, 2000), the present study took the position of a positive linier relationship between age and depressive symptoms based on longitudinal findings by a large body of investigations that particularly focused on older adults (e.g., H. J. Lee, 2013; Pålsson, Östling, & Skoog, 2001).

participants' age was calculated by subtracting their birth year from the year the survey was taken, and then 1 year was added) and thus the present study recoded the participants' age into the international age by subtracting 1 year. The husbands' age ranged from 60 to 97 years old and wives' age ranged from 60 to 88 years old; and the mean ages were 73.36 and 69.57 respectively.

Educational Attainment. A number of researchers have argued that education appears to give a lifelong advantage for healthy and successful aging. Studies have shown that education is directly linked to satisfaction in life and later life well-being (Kim, Hwang, & Hong, 2003; Meeks & Murrell, 2001; Ross & Mirowsky, 2006). In their meta-analysis, Kim and Sohn (2005) found that higher educational attainments were related to lower depressive symptoms. Also, it should be noted that going to school for educational attainment involves having classmates and making friends, which is directly associated with social activity participation in old age, such as participation in social gatherings, alumni society, etc. The participants' education was coded into four categories in the study: 1 = elementary school level graduation, 2 = middle school level graduation, 3 = high school level graduation, and 4 = college graduation and above level graduation. Both husbands and wives had the minimum and maximum educational attainment of 1 and 4, and the median scores were 2 and 1 respectively.

Labor Force Participation. As being in the current labor force participation has been actively discussed with life satisfaction and depressive symptoms in later life (e.g., Austrom et al., 2003; Choi, 2007; Doshi, Cen, & Polsky, 2008; Kim & Feldman, 2000; Ranzijn, 2002; Reitzes, Mutran, & Fernandez, 1996), it was vital to control its effect in this study. Also, the present study aspired to investigate the link between social activity participation and life satisfaction/depressive symptoms; and thus, it was important to note that labor force participation is likely to affect older adults' opportunities to participate in various social activities. The participants were asked if they were presently working at the labor force when the survey was taken, and responded with yes and no. The responses were recoded into labor force participation (= 1) and no labor force participation (= 0). The mean scores of the husbands and wives were .38 and .24 respectively.

Household Income. Studies have consistently documented the incidence of depressive symptoms and its persistence in relations to low income individuals and families (Kim, Hwang, & Hong, 2003; Lorant et al., 2003; Lorant et al., 2007) while previous findings also have shown that household income and socioeconomic inequalities have substantial effects on life satisfaction (Boyce, Brown, & Moore, 2010). Further, it has been found that difficulties in activity and severe limitations among older adults in associations with low socioeconomic status (measured by household income,

educational attainments, and employment status) are remarkably high (Heo & Cho, 2008; Pinquart & Sorensen, 2000). As these findings indicate, activity participation and limitations are likely to be strongly influenced by household income in later life; and thus controlled. The participants were asked of their annual household income in the previous year in the unit of 10,000 Korean won. The mean household income for the married couples were calculated if a spouse responded with different amounts of their household income from his or her partner. The mean household income of the married couples was KRW 2,313.44 per year. Even though the household income was not the outcome variable of the present study, and thus did not have to be concerned with the normality of its distribution, the natural logarithm of household income was calculated in order to grasp the effect of the household income in a comparable way. The mean LN household income of the married couples was 7.44 per year. LN Household income was entered into the analyses as a common variable for the married couples.

Subjective Health. There is a substantial number of studies that examined the role of subjective of health²² in determining the links of

²² Older adults are likely to perceive their health differently from a professional; and it has been suggested that the multiplicity of factors determining ‘not sick’ and ‘sick’ has rendered different concepts by different groups. In that vein, subjective health has been a useful indicator in capturing one’s broad experience of physical and mental health that emphasizes well-being aspects rather than disease-focused health status that may not fully reflect one’s health but rather a notion of a formal statement from a health professional (Hunt & McEwen,

depressive symptoms and life satisfaction in old age (Hwang, 2016; Jang, Poon, & Martin, 2004; Lee & Oh, 2017; Lee, Shin, & Lee, 2013; Niti et al., 2007; Stephan, Caudroit, & Chalabaev, 2011). Likewise, studies have shown that subjective health by older adults play a decisive role in participation of social activities in later life (Okun et al., 1984; World Health Organization, 2002). Therefore, the present study controlled this aspect. The participants were asked to assess their own health status and chose one among five options: (1) very good, (2) good, (3) fair, (4) poor, (5) very poor. Lower scores indicated better subjective health. Both husbands and wives had the minimum and maximum scores of 1 and 5; and the mean scores were 3.12 and 3.14 respectively.

Cognitive Functioning Levels. When one's cognitive function is affected, it can entail problems with memory, judgement, and language (Feldman et al., 2008). This means that if older adults face cognitive decline, their life quality may get affected and they may experience negative psychological well-being. Research has shown that older adults' cognitive decline is significantly related to life satisfaction as well as depressive symptoms (Hwang, Lim, & Lee, 2009; Kim, Kim, & Kim, 2005; Polyakova et al., 2014; St. John & Montgomery, 2010); and thus, cognitive function of

1980; Kelman, 1975). Therefore, the present study included subjective health as a control variable.

the participants was controlled in the study. Cognitive functioning levels was measured by the Mini-Mental State Examination (MMSE) which accesses cognitive functioning areas as in orientation of time and place, memory registration, memory recollection, attention/concentration and calculation, language functioning, as well as comprehension and judgement. It is a 30-point questionnaire and has been adopted broadly in clinical settings as well as in research settings when assessing cognitive function. The Korean version²³ of the MMSE was used in the KLoSA. The MMSE assesses cognitive functioning levels according to the total sum of the questionnaire scores. The husbands and wives had the minimum and maximum score of 0 and 30, and the mean scores were 25.44 and 25.13 respectively.

Cohabitation with Children. Because the present study aimed to look into individual and dyadic interactions of older married couples with regard to activity participation in social settings, any indication of interaction-inducing circumstances such as participants' cohabitation with adult children²⁴ was controlled. Studies have also suggested that older couples' living

²³ The MMSE was originally developed by Folstein and colleagues (1975). Pointing out potentially confounding issues due to cultural discrepancies and as such, Park and colleagues provided the adjusted MMSE for Korean older adults, and suggested that scores be modified with education levels by allocating points to the scores by older adults with no education in some areas (Kwon & Park, 1989; Park & Kwon, 1990). Now the MMSE-K has been widely used when assessing cognitive function in Korea (Hwang & Kim, 2009).

²⁴ Almost all (99%) participants had at least one child. The number of children ranged from 0 to 9.

arrangements with their adult children are likely to be associated with life satisfaction and psychological well-being (e.g., Wang, Chen, & Han, 2014). To acquire this Cohabitation with Children variable, first, the participants' responses from 'living with the first child (= 1)' and 'not living with the first child (= 5)' to 'living with the ninth child (= 1)' and 'not living with the ninth child (= 5)' were recoded into yes (= 1) and no (= 0). Next, all the positive responses of the participants when they asked if they lived with their child (whether being the first child, second child, third child, etc.) were added together; and then, those numbers were dummy-coded into 0 (= living with no child) and 1 (= living with at least one child). Cohabitation with children was entered into the analyses as a common variable for the married couples. The mean score of the couples was .23.

Frequency of Meeting Non-Cohabitant Children. Although there are findings indicating that meeting and contacting with friends are more important indicators than family interactions for well-being in old age (e.g., Fiori et al., 2006; Spakes, 1979), other scholars have also argued that life satisfaction and later life well-being have higher links to the contact with adult children (e.g., Pinquart & Sorensen, 2000; Wenger et al., 2007). Therefore, frequency of meeting adult children who did not live with older married couples was controlled. The participants were asked how often they meet up with their children who are living apart; and their responses were recoded into

0 = “I do not meet them”, 1 = “hardly see them in a year”, 2 = “once or twice a year”, 3 = “three or four times a year”, 4 = “five or six times a year”, 5 = “once a month”, 6 = “twice a month”, 7 = “once a week”, 8 = “two or three times a week”, and 9 = “almost everyday (more than four times per week)”, to reflect the appropriate frequency level of meeting children. As mentioned previously, 99% of the married couples in this study had at least one child (the minimum number of children = 0; the maximum number of children = 9). Having a higher number of children may indicate more opportunities for the participants to meet up with their children, and thus it was reflected onto this measurement by adding up the responses of the participants’ meet-up frequency with each non-cohabitant child. The minimum and maximum scores of both husbands and wives were 0 and 46, while the mean scores were 12.46 and 12.59, respectively.

Residential Area. In old age, where a person lives is likely to affect his or her life in general, especially with life satisfaction (Choi et al., 2018); and thus it was controlled. The participants were categorized into two residential areas: small town (= 0) and big/medium-sized city (= 1), which were dummy coded from big city (= 1), medium-sized city (= 2), and small town (= 3) of the original data set. Residential area was entered into the analyses as a common variable for the married couples. The mean score was .71.

Religion. It has been suggested that having religion affects many aspects of later life. For example, Kim and Park (2000) observed the impact of religion on older adults' quality of life and found that having a religion was associated with life satisfaction, overall quality of life, and happiness. Koenig (2009) suggested that older adults with religion are likely to show lower levels of depressive symptoms by involving with various roles through religious activities. Thus, the present study controlled for the influence of religion. The participants' response with religion categories (1 = No religion, 2 = Christian, 3 = Catholic, 4 = Buddhist, 5 = Won-Buddhist, and 97 = Other) was dummy coded into 0 (= no religion) and 1 (= have religion). The mean scores of the husbands and wives were .36 and .49, respectively.

Table 1 summarizes the research variables and how they were measured in the study.

Table 1. Research variables and measurements

		Variable	Measurement
Dependent Variables		Life Satisfaction	0~100: higher scores represent higher levels of life satisfaction
		Depressive Symptoms	CESD-10 (0~10: higher scores represent higher levels of depressive symptoms)
Independent Variable	Social Activity Participation	Formal Social Activity Participation	0~60: higher scores represent higher levels of participation
		Informal Social Activity Participation	0~9: higher scores represent higher levels of participation
Controls	Socio-demographic variables	Age	60 + (age in years)
		Educational attainment	1=elementary school; 2=middle school; 3=high school; 4=college and above
		Labor force participation	0=no participation; 1=participation
		Residential area	0=small town; 1=big/middle-sized city
		Religion	0=no religion; 1=have religion
	Income-related	Household income	LN of household income / year

Table 1. Research variables and measurements (continued)

		Variable	Measurement
Controls	Health-related	Subjective health	1~5: higher scores represent lower levels of health status
		Cognitive Functioning Levels	0~30: higher scores represent higher levels of cognitive functioning
	Adult children-related	Cohabitation with children	0=no cohabitation; 1=cohabitation
		Frequency of meeting non-cohabitant children	0~46: higher scores represent higher levels of participation

4.3. Data Analytic Strategy

First, preliminary data analysis using descriptive statistics was conducted where overall characteristics of the variables were summarized by husband and wife respectively, as in frequencies, percentages, means with SDs, skewedness, and kurtosis, to examine normality, outliers, and as such. Then, paired t-tests were conducted to compare the distributions of the main variables (i.e., life satisfaction, depressive symptoms, formal social activity participation, and informal social activity participation) for husband and wife.

Additionally, to test multicollinearity and correlations, Pearson's correlation coefficient between the main variables were observed. These analyses were done with SPSS 23.0 program.

Second, in order to examine older married couples' interdependence, the Actor-Partner Interdependence Model (APIM) was employed. Even though the assumption of independence is commonly used in various data analytic strategies, the present study paid attention to the fact that testing statistics become inaccurate as well as the estimation of statistical significance gets biased, and can result in seriously overestimating *p*-values, when this assumption is violated (e.g., examining married couples who cannot be completely independent) (Cook & Kenny, 2005). Therefore, the present study utilized the APIM via structural equation modeling (SEM) with AMOS 23.0. In the APIM, the interaction between husbands and wives are assumed and thus covariance is drawn between independent variables of husbands and wives. Also, when the dependent variables of husbands and wives are assessed, the model assumes covariance between the residuals of the dependent variables, which allows researchers to estimate the sole effects of the independent variables (Cook & Kenny, 2005).

Since husbands and wives are distinguishable dyads, not indistinguishable such as roommates or sibling dyads, structural equation modeling (SEM) approach is the simplest data-analytic method for estimating

the APIM than other methods such as multilevel modeling (MLM) or pooled-regression (Kenny, Kashy, & Cook, 2006). When adopting the structural equation modeling, it is not required for the data of each member in a pair to be homogenous (Kenny et al., 2006) and the SEM is appropriate for the APIM when examining the relativeness between variables as it considers measurement error (Kenny, 1996). More significantly, the SEM approach involves a dyad-level structure right away and can statistically compare estimates at the same time within the model (Cook & Kenny, 2005). Written in two linear equations, the model for this study can be summarized as the following:²⁵

$$Y_h = a_h X_h + p_{hw} X_w + E_h$$

$$Y_w = p_{wh} X_h + a_w X_w + E_w$$

²⁵ Y_h is the husband's life satisfaction/depressive symptoms; and Y_w is the wife's life satisfaction/depressive symptoms. X_h is the husband's social activity participation (centered around the grand mean across *both* husbands and wives); and X_w is the wife's social activity participation (also centered around the grand mean across *both* husbands and wives). As well, interpretations of actor and partner effects are straightforward. a_h is the actor effect of the husband's social activity participation on his own life satisfaction and depressive symptoms. a_w is the actor effect of the wife's social activity participation on her own life satisfaction and depressive symptoms. p_{wh} is the partner effect of the husband's social activity participation on his wife's life satisfaction and depressive symptoms. p_{hw} is the partner effect of the wife's social activity participation on her husband's life satisfaction and depressive symptoms.

To assess the research model in the study and to observe the interactions between husbands and wives in the dyadic setting, the initial step to be taken was to restructure the data set into husband and wife data. The KLoSA provides Individual ID as well as Couple ID indicators. For restructuring, Couple ID was used along with the gender variable. Then, the variables of the study were standardized using the mean and standard deviation of both husbands and the wives together, before entering them into the APIM analyses.²⁶

The present study used the nationally representative KLoSA data and the sampling size was greater than 400; therefore, the chi-square test and chi-square difference test of the study could be misleading indicators for judging the research model's goodness of fit. Because using chi-square test as the sole indicator for a fit index is not recommended when the sample size is large, the present study also employed other indicators to examine the goodness of model fit when structural models were tested. Multiple indices, employed in the present study based on the suggestions by Hong et al. (2003) and Hu and

²⁶ Although statistics packages such as SPSS provide standardized estimates, they are misleading when using the APIM analysis. When the participants are distinguishable such as husbands and wives, the 'standardized' estimates of the statistics program are done within each variable (i.e., each dyad member), and the variance of these estimates are likely to be different for each dyadic member, and it can cause problems. By standardizing this way, the same metric is not applied to each member and thus the differences between the standardized actor effects and standardized partner effects across the dyadic members become meaningless. Therefore, standardization has to be done across dyadic members by using pooled means and standard deviations (Ledermann & Kenny, 2017).

Bentler (1999), were as follows: The Comparative Fit Index (CFI; .95 or greater indicates adequate fits of the model), Tucker-Lewis Index (TLI; .95 or greater indicates adequate fits of the model), and the Root-Mean-Square Error Approximation (RMSEA; .06 or less indicates adequate fits of the model).

Estimated by the full information maximum likelihood method, the APIM analyses were performed while controlling for confounding variables, i.e., age, educational attainments, labor force participation, household income, subjective health, cognitive functioning levels, cohabitation with children, frequency of meeting non-cohabitant children, residential area, and religion.

CHAPTER V. RESULTS

5.1. Characteristics of the Participants²⁷

The overall socio-demographic characteristics of the participants are shown in Table 2. The husbands were older than the wives, as the mean age for the husbands and the wives were 73.4 (SD = 7.04) and 69.6 (SD = 6.76) respectively. The majority of the participants fell into the 65-74 age category (46.7% for husbands, 46.1% for wives). While 46.6% of the husbands had more than high school level education, 25.2% of the wives had more than high school level education, showing that the husbands had higher educational attainments. More than one third (37.6%) of the husbands were still in the labor force market, while fewer than one quarter (24.4%) of the wives were employed. The mean household income per year was approximately KRW 23,000,000 (SD = 1,867.39) while the mean of the log of household income was 7.44 (SD = .83). When the household income was divided into four groups²⁸ (Q1: less than 9,990,000, Q2: 10,000,000 ~ 23,990,000, Q3:

²⁷ When the differences of control variables between husbands and wives were tested, all controls showed statistically significant differences between the couples except for subjective health.

²⁸ The present study followed the KLoSA report for this division standard of household income (Korea Employment Information Service, 2017).

24,000,000 ~ 41,990,000, Q4: 42,000,000 and over, unit: KRW) the highest percentage of the older couples fell into the Q2 group (37.4%).

Both husbands and wives indicated that their subjective health was about the middle of the scale (not good nor bad) on average. The husbands showed slightly higher levels of cognitive function than the wives, as the mean scores for the husbands and the wives were 25.44 (SD = 5.16) and 25.13 (SD = 4.97) respectively. The majority of the married couples had ‘normal cognition’ (74.5% and 70.0% for husbands and wives each) and the wife group had slightly more participants who were showing severe cognitive decline than the husband group (7.7% for husbands and 8.7% for wives).²⁹ Fewer than one quarter (23.2%) of the older married couples were living with their adult children.³⁰ Both husbands and wives were seeing non-cohabitant children at approximately similar frequency. The mean scores of the husbands and wives were 12.46 (SD = 6.40) and 12.59 (SD = 6.42), respectively. The majority of the older couples were living in a big/medium-sized city (70.5%) while 29.5%

²⁹ In previous studies, a MMSE score of 17 or less has been considered as having severe cognitive decline, 18–23 as having mild cognitive decline, and 24 or above as having normal cognitive function (Park & Kim, 1996; Park, Park, & Ko, 1991; Tombaugh & McIntyre, 1992, cited in Ha, Chung, & Jeong, 2015), and the KLoSA provides a variable with these three categories. Thus, the numbers and percentages of these three groups for husbands and wives are described here to show the overall cognitive functioning levels of the married couples.

³⁰ Though not shown in the Table 2, almost all (99.0%) participants had living children at the time of the 6th wave of the KLoSA survey.

indicated that they live in a small town. Almost half (48.6%) of the wives had a religion while 36.3% of the husbands indicated that they had a religion.

Table 2. Socio-demographic characteristics of the participants

		Husband (N = 1,631)		Wife (N = 1,631)		Paired <i>t</i> / χ^2 test
		n	%	n	%	
Age	60-64	172	10.5	475	29.1	<i>t</i> = 48.32***
	65-74	762	46.7	752	46.1	
	75-84	584	35.8	368	22.6	
	Over 85	113	6.9	36	2.2	
	min.	60		60		
	max.	97		88		
	mean (SD)	73.36 (7.04)		69.57 (6.76)		
Educational Attainment	elementary	564	34.6	890	54.6	χ^2 = 1,061.68***
	middle school	307	18.8	330	20.2	
	high school	537	32.9	354	21.7	
	college & above	223	13.7	57	3.5	
Labor Force Participation	yes	613	37.6	398	24.4	χ^2 = 185.47***
	no	1,018	62.4	1,233	75.6	
Household Income / yr (unit: KRW 10,000)	Q1(~ 999)	386 (23.7%)				—
	Q2(1,000 ~)	610 (37.4%)				
	Q3(2,400 ~)	395 (24.2%)				
	Q4(4,200 ~)	234 (14.3%)				
	min.	45				
	max.	18,400				
	mean (SD)	2,313.44 (1,867.39)				
LN Household Income / yr	mean (SD)	7.44 (.83)				—

Note: *** $p < .001$

Table 2. Socio-demographic characteristics of the participants (continued)

		Husband (N = 1,631)		Wife (N = 1,631)		Paired <i>t</i> / χ^2 test
		n	%	n	%	
Subjective Health	min.	1		1		<i>t</i> = -1.16
	max.	5		5		
	mean (SD)	3.12 (.86)		3.14 (.83)		
Cognitive Functional Level	severe cognitive decline	112	7.9	126	8.9	<i>t</i> = 2.35*
	mild cognitive decline	245	17.4	303	21.5	
	normal cognition	1054	74.7	982	69.6	
	min.	0		0		
	max.	30		30		
	mean (SD)	25.44 (5.16)		25.13 (4.97)		
Cohabitation with Children	yes	375 (23.2%)				—
	no	1,239 (76.8%)				
Freq. of Meeting Non-Cohabitant Children	min.	0		0		<i>t</i> = -2.56*
	max.	46		46		
	mean (SD)	12.46 (6.40)		12.59 (6.42)		
Residential Area	big city	655 (40.2%)				—
	middle-size city	495 (30.3%)				
	small town	481 (29.5%)				
Religion	yes	591	36.3	792	48.6	χ^2 = 775.89***
	no	1,039	63.7	839	51.4	

Note: * $p < .05$; *** $p < .001$

5.2. Characteristics and Correlations of the Main Variables

Table 3 describes the characteristics and paired t-test results of the main variables in this study. When looking at the two outcome variables of the study, i.e., life satisfaction and depressive symptoms, the husbands had slightly higher mean scores for life satisfaction than the wives whereas the wives had slightly higher depressive symptoms scores than the husbands. The paired t-test results, though, showed that there was no difference between husbands and wives with regard to life satisfaction ($t = .831, p > .05$). In the case of depressive symptoms, there was a statistically significant difference between the couples ($t = -2.725, p < .01$). The husbands demonstrated significantly lower levels of depressive symptoms than the wives. While formal social activity participation showed no difference between the husbands and wives ($t = .112, p > .05$), there were a statistically significant difference between the married couples in levels of informal activity participation ($t = -5.687, p < .001$). The wives showed much higher levels of informal social activity participation than the husbands.

Table 3. Characteristics of the main variables

		Husband (N=1,631)	Wife (N=1,631)	Paired <i>t</i>
Life Satisfaction	mean (SD)	63.07 (15.67)	62.79 (15.14)	.831
	min.	0	0	
	max.	100	100	
	skewness	-.62	-.57	
	kurtosis	.55	.34	
Depressive Symptoms	mean (SD)	2.87 (2.76)	3.01 (2.74)	-2.725**
	min.	0	0	
	max.	10	10	
	skewness	.70	.58	
	kurtosis	-.70	-.90	
Formal Social Activity Participation	mean (SD)	6.61 (5.48)	6.60 (5.33)	.112
	min.	0	0	
	max.	38	29	
	skewness	1.08	.86	
	kurtosis	2.60	1.30	
Informal Social Activity Participation	mean (SD)	6.18 (2.76)	6.55 (2.57)	-5.687***
	min.	0	0	
	max.	9	9	
	skewness	-1.10	-1.30	
	kurtosis	.26	.97	

Note: ** $p < .01$; *** $p < .001$

To test the multicollinearity and normality, Pearson's correlations between the main variables were observed (Table 4). The highest absolute value of the correlations among the variables was .68, which did not exceed the cut-off correlation of .80 to indicate problematic multicollinearity. Also, when the VIF and Tolerance were examined no VIF scores were larger than 10 and the lowest Tolerance score was less than .20 (Cohen et al., 2003). As well, because the size of the participants in the study is large enough, it was suggested that examining skewness and kurtosis was adequate for detecting non-normality. Table 3 indicates that the skewness and kurtosis of the main variables do not exceed the absolute value of 3 and 10 (Bae, 2017). Thus, it was concluded that there is little likelihood of multicollinearity problems in the study.

Table 4. Correlations of the main variables

	1	2	3	4	5	6	7	8
1. fSocAct_H	-							
2. fSocAct_W	.599**	-						
3. iSocAct_H	.434**	.207**	-					
4. iSocAct_W	.222**	.359**	.520**	-				
5. LifeSat_H	.224**	.157**	.259**	.165**	-			
6. LifeSat_W	.197**	.204**	.190**	.199**	.621**	-		
7. DepSym_H	-.218**	-.119**	-.295**	-.235**	-.419**	-.393**	-	
8. DepSym_W	-.144**	-.149**	-.211**	-.283**	-.343**	-.432**	.684**	-

Note: 1) ** $p < .01$

2) 1. fSocAct_H: Husbands' Formal Social Activity, 2. fSocAct_W: Wives' Formal Social Activity, 3. iSocAct_H: Husbands' Informal Social Activity, 4. iSocAct_W: Wives' Informal Social Activity, 5. LifSat_H: Husbands' Life Satisfaction, 6. LifSat_W: Wives' Life Satisfaction, 7. DepSym_H: Husbands' Depressive Symptoms, 8. DepSym_W: Wives' Depressive Symptoms

5.3. Hypotheses Test

In order to examine the individual and dyadic associations between older married couples' social activity participation and life satisfaction/depressive symptoms, the proposed research model was estimated with the full information maximum likelihood method, and the analyses were performed while controlling for confounding variables, i.e., age, educational attainments, labor force participation, household income, subjective health, cognitive functioning levels, cohabitation with children, frequency of meeting non-cohabitant children, residential area, and religion. To assess the goodness of fit for the research model, multiple indices were employed: CFI (.95 or greater), TLI (.95 or greater), and RMSEA (.06 or less) (Hong et al., 2003; Hu & Bentler, 1999). The findings showed that the model was a good fit, i.e., as expected with a large data set, χ^2 was 25.297 while degree of freedom was 14 and was significant at $p < .05$; however, TLI was .986, CFI was .999, and RMSEA was .022.

Because a systematic theoretical and measurement model for conceptualizing and measuring individual as well as dyadic levels of older married couples' social activity participation and its effects, still remains as the areas that need to get delved into, the interpretation of the analyses was done in two steps for each outcome variables (life satisfaction and depressive symptoms): (a) the first step was to tap into the research model at the

individual level to see if there were indeed relationships between husbands' social activity participation and their own life satisfaction/depressive symptoms, as well as to see if there were relationships between wives' social activity participation and their own life satisfaction/depressive symptoms; and (b) the next was to explore the research model at the dyadic level to see if there were associations between husbands' social activity participation and their wife's life satisfaction/depressive symptoms, as well as to see if there were associations between wives' social activity participation and their husband's life satisfaction/depressive symptoms.

5.3.1. Social Activity and Life Satisfaction

Individual and Dyadic Accounts of Older Married Couples with regard to Life Satisfaction

When individual (actor) and dyadic (partner) experiences of older married couples with regard to life satisfaction were examined, only informal social activity participation of both husbands and wives demonstrated statistically significant actor effects with no partner effects. That is, the husbands' higher levels of informal social activity participation were positively related to higher levels of their own life satisfaction ($\beta = .104$,

$p < .001$) but were not significantly related to their wife's life satisfaction. The wives' higher levels of informal social activity participation were positively related to higher levels of their own life satisfaction ($\beta = .072$, $p < .01$) but were not significantly related to their husband's life satisfaction (see Table 5, Figure 4, and Figure 5). Therefore, it appears that when life satisfaction was concerned, there were statistically significant individual (actor) effects of informal social activity participation for both husbands and wives; however, there were no significant dyadic (partner) effects for both husbands and wives in later life.³¹

³¹ Although it was not hypothesized, when the actor effects of husband and wife that were statistically significant (i.e., the husband's actor effect of informal social participation on his own life satisfaction as well as the wife's actor effect of informal social participation on her own life satisfaction) were compared, the result showed that there were no statistically significant differences in effect sizes between husbands and wives ($\chi^2(1) = .385$, $p = .535$).

Table 5. Actor and partner effect analyses for life satisfaction

	Paths	B	β	S.E.	C.R.
Actor Effect	fSocial Activity(h) →Life Satisfaction(h)	-.009	-.009	.031	-.275
	iSocial Activity(h) →Life Satisfaction(h)	.102	.104	.029	3.558***
	fSocial Activity(w) →Life Satisfaction(w)	.008	.008	.031	.274
	iSocial Activity(w) →Life Satisfaction(w)	.074	.072	.029	2.565**
Partner Effect	fSocial Activity(h) →Life Satisfaction(w)	-.005	-.006	.030	-.180
	iSocial Activity(h) →Life Satisfaction(w)	.042	.044	.028	1.508
	fSocial Activity(w) →Life Satisfaction(h)	-.020	-.019	.031	-.637
	iSocial Activity(w) →Life Satisfaction(h)	.031	.029	.028	1.047

Note: 1) (h) = husband; (w) = wife

2) ** $p < .01$; *** $p < .001$

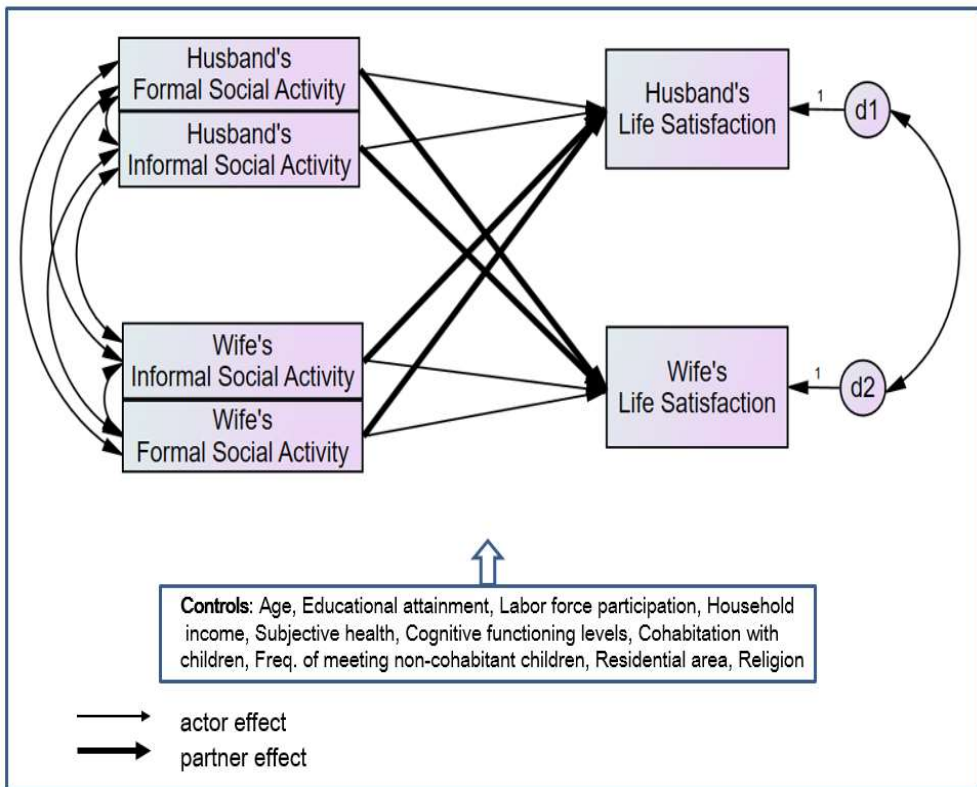


Figure 4. The life satisfaction-focused partial research model

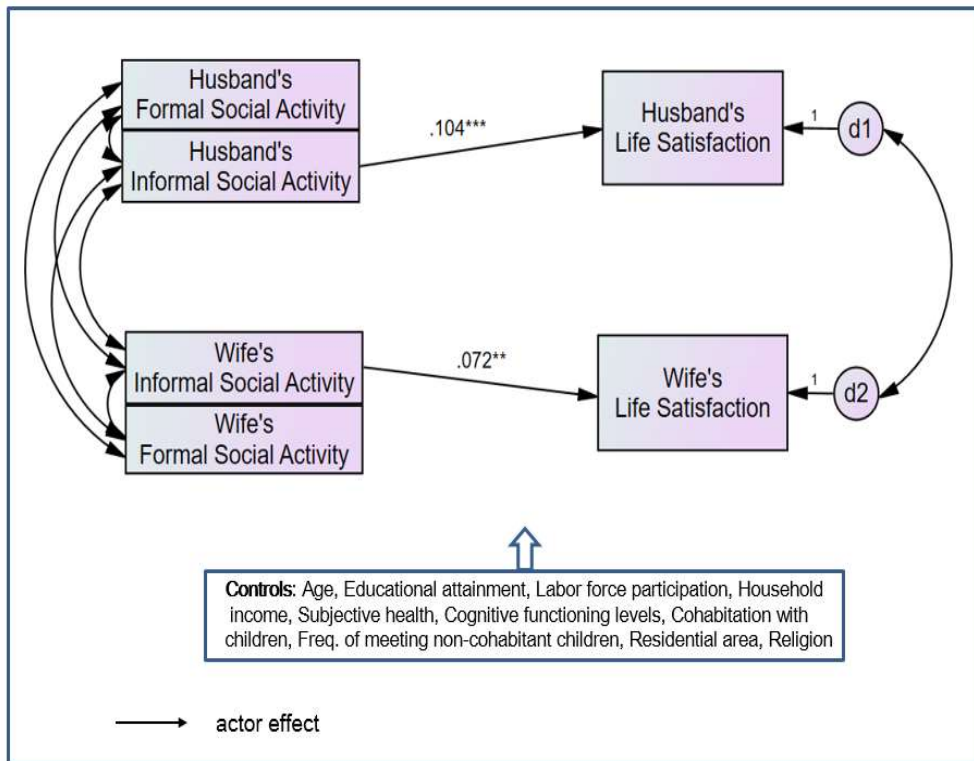


Figure 5. The result of the actor and partner effect analyses for life satisfaction

Note: 1) $** p < .01$; $*** p < .001$

2) Only statistically significant results are shown.

5.3.2. Social Activity and Depressive Symptoms

Individual and Dyadic Accounts of Older Married Couples with regard to Depressive Symptoms

When individual (actor) and dyadic (partner) experiences of older married couples with regard to depressive symptoms were examined, both formal and informal social activity participation demonstrated statistically significant actor and partner effects, albeit the detailed results were different for husbands and wives. That is, as for the actor effects, the husbands' higher levels of informal social activity participation were positively related to lower levels of their own depressive symptoms ($\beta = -.098, p < .001$, respectively). The wives' higher levels of informal social activity participation were positively related to lower levels of their own depressive symptoms ($\beta = -.168, p < .001$).

As for the partner effects, the wives' higher levels of formal and informal social activity participation were significantly related to their husband's depressive symptoms, despite having the opposite associations ($\beta = .089, p < .01$ and $\beta = -.119, p < .001$, respectively). That is, the wives' higher levels of informal social activity participation were positively related to lower levels of their husband's depressive symptoms as proposed; however, interestingly, the wives' higher levels of formal social activity participation were positively related to higher levels of their husband's depressive

symptoms. The husbands' formal and informal social activity participation were not significantly related to their wife's depressive symptoms (see Table 6, Figure 6, and Figure 7). Therefore, it appears that when depressive symptoms were concerned, there were statistically significant individual (actor) effects of social activity participation for both husbands and wives; however, only wives' social activity participation had significant dyadic (partner) effects on their husband's depressive symptoms, even though the partner effects had opposite associations with the husband's depressive symptoms depending on the social activity types.³²

³² Although it was not hypothesized, when the actor effects of husband and wife that were statistically significant (i.e., the husband's actor effect of informal social participation on his own depressive symptoms as well as the wife's actor effect of informal social participation on her own depressive symptoms) were compared, the result showed that there were no statistically significant differences in actor effect sizes between husbands and wives ($\chi^2(1)=.2.779$, $p=.096$).

Table 6. Actor and partner effect analyses for depressive symptoms

	Paths	B	β	S.E.	C.R.
Actor Effect	fSocial Activity(h) →Depressive Symptoms(h)	-.047	-.048	.031	-1.514
	iSocial Activity(h) →Depressive Symptoms(h)	-.095	-.098	.029	-3.278***
	fSocial Activity(w) →Depressive Symptoms(w)	.054	.054	.031	1.736
	iSocial Activity(w) →Depressive Symptoms(w)	-.174	-.168	.029	-5.938***
Partner Effect	fSocial Activity(h) →Depressive Symptoms(w)	.001	.001	.031	.024
	iSocial Activity(h) →Depressive Symptoms(w)	-.039	-.040	.028	-1.361
	fSocial Activity(w) →Depressive Symptoms(h)	.090	.089	.031	2.907**
	iSocial Activity(w) →Depressive Symptoms(h)	-.124	-.119	.030	-4.201***

Note: 1) (h) = husband; (w) = wife

2) ** $p < .01$; *** $p < .001$

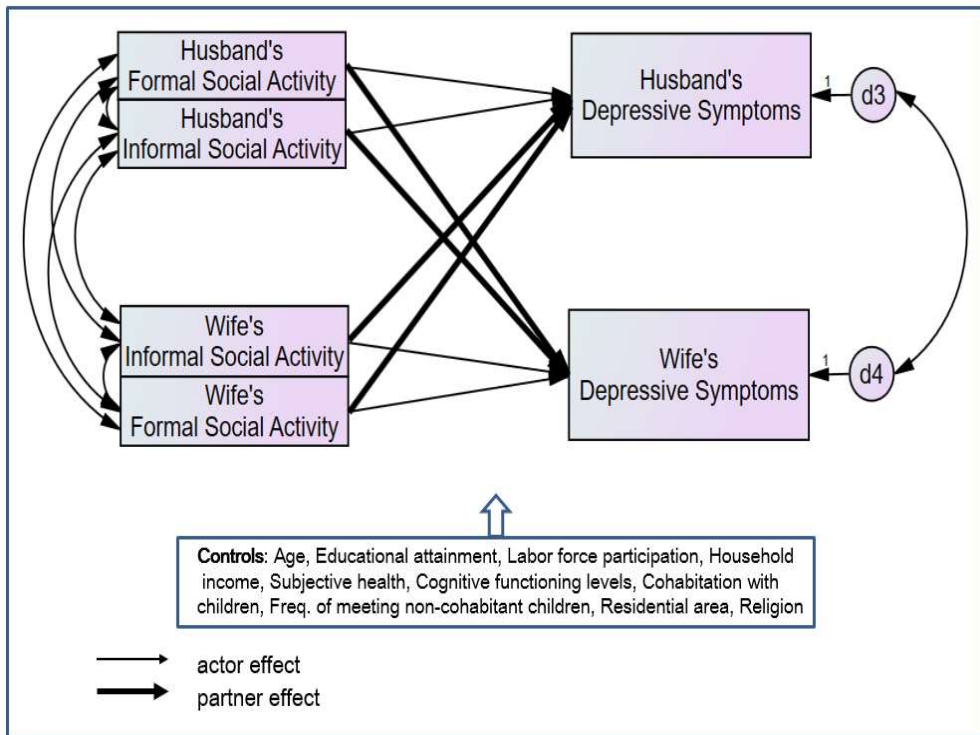


Figure 6. The depressive symptoms-focused partial research model

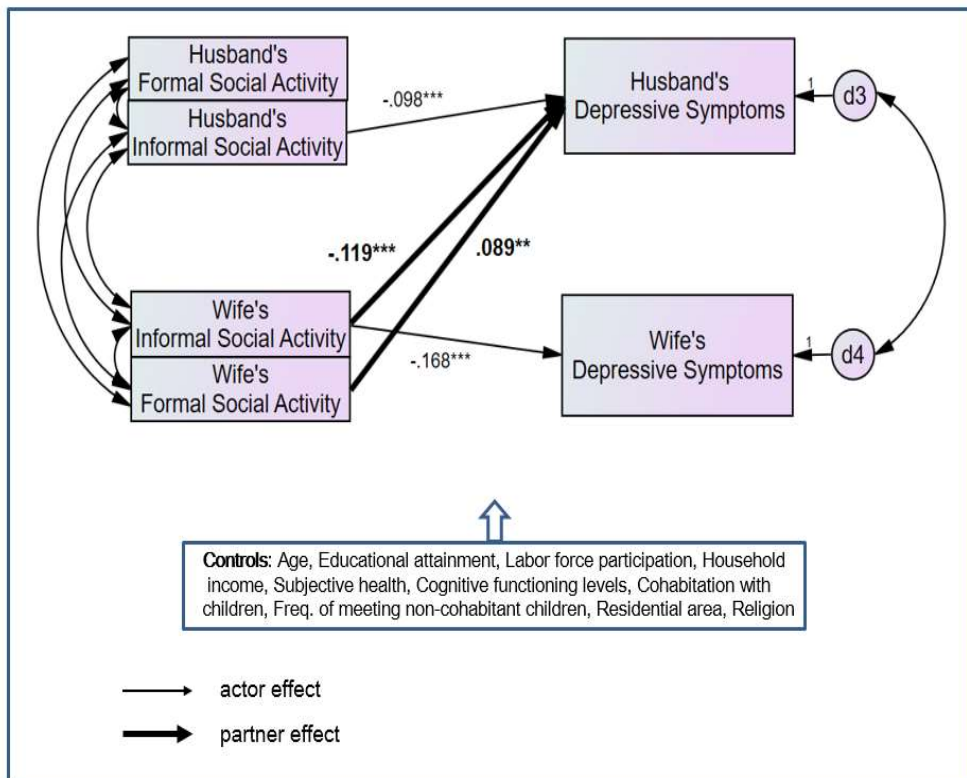


Figure 7. The result of the actor and partner effect analyses for depressive symptoms

Note: 1) ** $p < .01$; *** $p < .001$

2) Only statistically significant results are shown.

*Control Variables*³³

Table 7 shows statistically significant results of the associations between control variables and life satisfaction/depressive symptoms. It appeared that older age was likely to be linked to better later life well-being. Though there was no significant relation between husbands' age and life satisfaction, husbands' older age was associated with husbands' lower levels of depressive symptoms ($\beta = -.073, p < .01$). Wives' older age was significantly associated with wives' higher levels of life satisfaction and lower levels of depressive symptoms ($\beta = .062, p < .05$ and $\beta = -.092, p < .001$, respectively).

Wives' educational attainment appeared to be linked to the wives' higher levels of life satisfaction ($\beta = .054, p < .05$), but there was no significant finding for husbands. There were no statistically significant relations between labor force participation and life satisfaction for both husbands and wives. However, wives' labor force participation seemed to be related to their own lower levels of depressive symptoms as well as their husband's lower levels of depressive symptoms ($\beta = -.101, p < .001$ and $\beta = -.059, p < .05$, respectively).

³³ Other than the common variables for both husband and wife (i.e., household income, cohabitation with children, and residential area), the rest of the control variables were entered into the APIM model analysis while following the previous research findings and the theory of activity of aging. That is, labor force participation, subjective health, cognitive functioning levels, and frequency of meeting non-cohabitant adult children were controlled for both actor and partner effects of husbands and wives. However, age, educational attainment, and religion were only controlled for actor effects of husbands and wives because there is no clear theory on their possible dyadic relations as well as there has not been much research information on those variables' dyadic relations with either life satisfaction nor depressive symptoms.

Having a religion appears to have no association with the outcome for both husbands and wives.

All individual and dyadic associations between subjective health and life satisfaction/depressive symptoms appeared to be statistically significant, except for the links between husbands' subjective health and wives' depressive symptoms as well as wives' subjective health and husbands' depressive symptoms.³⁴ Husbands' better subjective health was significantly associated with their own higher levels of life satisfaction and lower levels of depressive symptoms ($\beta = -.236, p < .001$ and $\beta = .175, p < .001$, respectively). Wives' better subjective health was significantly associated with their own higher levels of life satisfaction and lower levels of depressive symptoms ($\beta = -.245, p < .001$ and $\beta = .226, p < .001$, respectively). Husbands' better subjective health was significantly associated with their wife's higher levels of life satisfaction and wives' better subjective health was significantly associated with their husband's higher levels of life satisfaction ($\beta = -.127, p < .001$ and $\beta = -.115, p < .001$, respectively).

The findings showed that cognitive functioning levels of both husbands and wives were likely to be associated with their own higher levels of life satisfaction ($\beta = .144, p < .001$ and $\beta = .110, p < .001$, respectively) and

³⁴ Lower scores indicate better subjective health: (1) very good, (2) good, (3) fair, (4) poor, (5) very poor.

lower levels of depressive symptoms ($\beta = -.195, p < .001$ and $\beta = -.166, p < .001$, respectively). Although cognitive functioning levels did not have any significant dyadic relation to life satisfaction for both husbands and wives, depressive symptoms appeared to be playing a significant role on the dyadic level. Husbands' higher cognitive functioning levels were likely to be associated with their wife's lower levels of depressive symptoms ($\beta = -.135, p < .001$). Wives' higher cognitive functioning levels were likely to be associated with their husband's lower levels of depressive symptoms ($\beta = -.079, p < .05$). Lastly, it appeared that the frequency of meeting non-cohabitant adult children was not related to life satisfaction nor depressive symptoms for both husbands and wives on individual as well as dyadic levels.

All taken together, it was found that: (a) husbands' subjective health, husbands' cognitive functioning levels, and wives' subjective health were significantly related to husbands' life satisfaction; (b) wives' age, wives' education, wives' subjective health, wives' cognitive functioning levels, and husbands' subjective health were significantly related to wives' life satisfaction; (c) husbands' age, husbands' subjective health, husbands' cognitive functioning levels, wives' present labor participation, and wives' cognitive functioning levels were significantly related to husbands' depressive symptoms; (d) wives' age, wives' present labor participation, wives' subjective health, wives' cognitive functioning levels, and husbands'

cognitive functioning levels were significantly related to wives' depressive symptoms.

When the common control variables (household income, cohabitation with children, and residential area) for older married couples were examined, the older couples' higher levels of household income were significantly related to higher levels of life satisfaction for both husbands and wives ($\beta = .133$, $p < .001$ and $\beta = .153$, $p < .001$, respectively). The older couples' higher levels of household income were significantly related to lower levels of depressive symptoms for husbands ($\beta = -.061$, $p < .05$), but not for wives. Cohabitation with children was significantly related to lower levels of life satisfaction for both husbands and wives ($\beta = -.056$, $p < .05$ and $\beta = -.066$, $p < .01$, respectively); and cohabitation with children did not have significant associations with depressive symptoms of the older couples. Residential area did not provide any statistically significant associations for both husbands and wives.

Table 8 summarizes the hypotheses test results of the study.

Table 7. Control variables results for life satisfaction and depressive symptoms

	Paths	β(S.E.)
Lif Sat	Age(w) → Life Satisfaction(w)	.062(.028)*
	Education(w) → Life Satisfaction(w)	.054(.025)*
	Subjective Health(h) → Life Satisfaction(h)	-.236(.027)***
	Subjective Health(w) → Life Satisfaction(w)	-.245(.027)***
	Subjective Health(h) → Life Satisfaction(w)	-.127(.027)***
	Subjective Health(w) → Life Satisfaction(h)	-.115(.027)***
	Cognitive Function(h) → Life Satisfaction(h)	.144(.029)***
	Cognitive Function(w) → Life Satisfaction(w)	.110(.031)***
	Household Income → Life Satisfaction(h)	.133(.028)***
	Household Income → Life Satisfaction(w)	.153(.027)***
	Cohabitation w/ Children → Life Satisfaction(h)	-.056(.025)*
	Cohabitation w/ Children → Life Satisfaction(w)	-.066(.024)**
Dep Sym	Age(h) → Depressive Symptoms(h)	-.073(.026)***
	Age(w) → Depressive Symptoms(w)	-.092(.027)**
	Labor Force(w) → Depressive Symptoms(w)	-.101(.026)***
	Labor Force(w) → Depressive Symptoms(h)	-.059(.026)*
	Subj. Health(h) → Depressive Symptoms(h)	.175(.028)***
	Subj. Health(w) → Depressive Symptoms(w)	.226(.027)***
	Cognitive Func.(h) → Depressive Symptoms(h)	-.195(.030)***
	Cognitive Func.(w) → Depressive Symptoms(w)	-.166(.032)***
	Cognitive Func.(h) → Depressive Symptoms(w)	-.135(.029)***
	Cognitive Func.(w) → Depressive Symptoms(h)	-.079(.032)*
	Household Income → Depressive Symptoms(h)	-.061(.028)*

Note: 1) (h) = husband; (w) = wife; Life Sat = Life Satisfaction; Dep Sym = Depressive Symptoms

2) * p<.05; ** p<.01; *** p<.001

3) Only statistically significant results are shown.

Table 8. The results of the hypotheses test

		Hypotheses Test	Supported (Yes/No)
Actor Effect	H1a	Levels of social activity participation of the husband are likely to be positively related to his own levels of life satisfaction.	Yes
	H1b	Levels of social activity participation of the wife of are likely to be positively related to her own levels of life satisfaction.	Yes
Partner Effect	H2a	Levels of social activity participation of the husband are likely to be positively related to his wife's levels of life satisfaction.	No
	H2b	Levels of social activity participation of the wife are likely to be positively related to her husband's levels of life satisfaction.	No
Actor Effect	H3a	Levels of social activity participation of the husband are likely to be negatively related to his own levels of depressive symptoms.	Yes
	H3b	Levels of social activity participation of the wife are likely to be negatively related to her own levels of depressive symptoms.	Yes
Partner Effect	H4a	Levels of social activity participation of the husband are likely to be negatively related to his wife's levels of depressive symptoms.	No
	H4b	Levels of social activity participation of the wife are likely to be negatively related to her husband's levels of depressive symptoms.	Yes/No³⁵

³⁵ H4b was supported for *informal* social activity only. That is, levels of informal social activity participation of the wife were likely to be *negatively* related to her husband's levels of depressive symptoms. H4b was not supported for *formal* social activity. levels of formal social activity participation of the wife were likely to be *positively* related to her husband's levels of depressive symptoms.

CHAPTER VI. CONCLUSION

6.1. Discussion

The aging of the society has brought up the issue of ‘aging well’ and the activity theory of aging has provided valuable insights (Lemon, Bengtson, & Peterson, 1972). As well, witnessing the increase of older married couples living together longer, more scholars started to pay attention to the interdependence of couples and its implications for potentially effective intervention programs (Chung et al., 2009; Kenny, Cashy, & Cook, 2006). However, it appears that few studies examined the interdependent aspects of married couples’ social activity participation and its effects in later life. The present study aimed to explore interdependent dynamics of married couples in old age, with regard to social activity participation and its relations to their own as well as their spouse’s later life well-being (namely, life satisfaction and depressive symptoms) in the dyadic setting. The main findings are as follows.

First, when individual accounts (actor effect) of husbands and wives on their social activity participation and later life well-being were analyzed, there were indeed positive links between social activity participation and life satisfaction/depressive symptoms for older married couples, as proposed by

the activity theorists Lemon and colleagues (1972) and others. In agreement with previous findings (e.g., Fiori, Antonucci, & Cortina, 2006; S. E. Lee, 2013; Warr, Butcher, & Robertson et al., 2004), the individual accounts of older married couples have revealed that participating in informal social activities such as meeting up with friends, neighbors, and relatives was positively related to high levels of life satisfaction for both husbands and wives in old age; and participating in these social activities also appears to be playing a positive role in ameliorating depressive symptoms for both husbands and wives. Within the activity theory framework, this can be explained that meeting up with friends and close people may have provided an opportunity to husbands and wives in fulfilling a basic human need for connection and generating a sense of community (Maier & Klumb, 2005). Changes in old age such as retirement and adult children's leave may significantly affect older adults. However, interacting with friends, neighbors, and relatives in these social settings may have substituted their role loss and role change, may have provided opportunities for role support that contributed to positive self-concept, and may have shaped the way retired older adults viewed themselves in a more encouraging way, with regard to life satisfaction and depressive symptoms. As well, meeting friends and neighbors may have provided older adults an opportunity to fulfil a need for connection and a sense of community, to characterize self-concept and identity, and to shape their thoughts,

behaviors, and aging process. This could have affected how older adults see themselves in relation to satisfaction in life (Havighurst, 1961; Lemon et al., 1972; Maier & Klumb, 2005; Reitzes, Mutran, & Verrill, 1995; Winstead et al, 2014).

Second, when the individual accounts were considered, formal social activity participation, such as going to church, participating in sports clubs, social gatherings (e.g., ‘gye-mo-im,’ ‘nho-in-jeong’), and the like, was not associated with older couples’ later life well-being. Even though the activity theory of aging suggests that participating in social activity is likely to be associated with positive well-being in later life, along with supports from past researches providing evidence (e.g., Boosman et al., 2011; Park, 2009), it appears that the types of social activity is one of the elements leading to different results here. It should be noted that one of the reasons could be the lack of variability of the formal social activity participation. The formal social activity was examined with six indicators in the study: religious activity, social gatherings, leisure/sports, hometown/alumni society, volunteering, and political/interest groups. When the older couples’ participating frequency in each indicator was looked into, it was found that almost all formal social

activities, except for social gatherings, had low levels of participation in the first place.³⁶ This point needs to be explored further in future studies.

It is also noted that, unlike previous studies, the present study restructured the data set so that the married couples were paired accordingly for the dyadic setting to analyze the social activity hypotheses; yet, it is important to contemplate why the older adults' participation in formal social activities did not show associations with their own life satisfaction or depressive symptoms in the study, unlike informal social activities. Going back to the basis of the activity theory of aging, it is thus speculated that perhaps the proposed explanation of role support and self-concept in the theory may be one of the reasons. The theory proposed that participating in activities

³⁶ (a) for religious activity, 87.9% of the husbands and 79.5% of the wives responded that they were not participating at all. The highest levels of religious activity participation were 7.2% ("once a week") and 10.8% ("once a week") for husbands and wives respectively;

(b) for social gatherings, 36.9% of the husbands and 39.4% of the wives responded that they were not participating in any social gatherings. The highest levels of social gathering participation were 28.9% ("once a month") and 27.7% ("once a month") for husbands and wives respectively;

(c) 94.6% of the husbands and 94.1% of the wives answered that they were not involved with leisure/sports activities. The highest levels of leisure/sports activity participation were 1.6% ("once a month") for the husbands and 1.5% ("once a month") for the wives;

(d) 80.5% of the husbands and 91.9% of the wives answered that they were not participating in hometown/alumni society activities. The highest levels of hometown/alumni society activity participation were 8.8% ("once a month") for the husbands and 3.7% ("once a month") for the wives;

(e) for volunteer activity, 99.6% of the husbands and 99.1% of the wives responded that they were not participating at all. The highest levels of volunteer activity participation were .2% ("once a month") and .5% ("once a month") for husbands and wives respectively; and

(f) 99.8% of the husbands and 99.9% of the wives answered that they were not involved with political/interest group activities. The highest levels of political/interest group activity participation were .1% ("once a month") for the husbands and .1% ("three of four times a year") for the wives.

provides opportunities for role supports and human connectedness that are essential for confirming one's self-concept and identity, which in turn affects later life-well-being. Then, for example, would it be because joining sports clubs and participating in religious activities (formal social activity) provide rather different paths for positively influencing self-concept, and which could be differently associated with life satisfaction, than meeting friends and neighbors (informal social activity)?

Previous discourses did indicate that there might be different workings for formal and informal activities in the activity theory. Lemon and colleagues (1972) argued that informal activity involves more primary group relationships and spontaneity, and it offers more specific role supports for bolstering role identities, and is thus the most important activity type for reinforcing the self-concept and promoting positive well-being, while role supports in formal activity tend to be more about generalized social roles (1972, p. 514). As Kim, Lee, and Lee (2013) discussed, older couples' participation in sports/hobby activities, alumni society/hometown gatherings, family councils, etc. are likely to affect older adults' self-esteem; and this positive self-esteem may be related to married couples' emotional closeness and intimacy. Perhaps, investigating the relationship between formal/informal social activity and later life well-being of older couples with specific

mediating paths in future studies might provide an insight on the different results for formal and informal social activity in the present study.

Third, for dyadic analyses (partner effect) of social activity participation and later life well-being, the most prominent result of the present study is the finding that only husbands were affected by their wives' social activity participation when it comes to their own depressive symptoms. Wives' depressive symptoms did not appear to get ameliorated nor worsened by their husbands' social activity participation. It appears that gender aspects should be taken into consideration. Scholars have indeed argued that there are clear gender differences when it comes to social activity participation and its related effects in later life (e.g., Ji, 2012; Kim, 2009). Even though the activity theory of aging has provided much evidence for both men and women in later life (e.g., Boosman et al., 2011; Cacioppo et al., 2006; Park, 2009), it is noteworthy to contemplate the different results for husbands and wives. This point is important to observe because, for older married couples, gender difference in their dyadic interdependent accounts could be more prominent because gender is a large part of one's life and thus his or her accumulated life experiences may play a crucial role in later life marital interactions (Ferraro & Shippee, 2009; Lee & Han, 2012; Settersten, 2002). Although this dyadic account difference for husband and wife could not be compared to previous research

findings due to lack of studies examining social activity partner effects, there are a number of investigations providing results for gender differences when married couples are observed (e.g., Han & Son, 2015; Joo & Jun, 2014; Kim & Choi, 2011; Stimpson, Peek, & Markides, 2006).

Here, what is interesting is that the present study found husbands being affected by their wives' social activity participation with regard to their own depressive symptoms, not wives being affected by their husband. It is noteworthy because a large body of research on married couples has illustrated that husbands are not likely to be influenced by their wife's characteristics or behaviors, and it is the wives who tend to be swayed by their husband's characteristics or behaviors. For example, when Stimpson, Peek, and Markides (2006) found different results for older Mexican American husbands and wives after analyzing the relations between depression and well-being (as in self-esteem, concern for independence, life satisfaction, cognitive function, social support), the findings demonstrated that it was wives who were affected by their spouse. Husbands' depression was negatively associated with their wife's well-being, while the wives' depression did not influence their husband's well-being at all. Likewise, there are studies demonstrating husbands' stronger influence on their wives. Wives' life satisfaction was negatively associated with their husband's chronic disease, not vice versa, when individual and spousal characteristics affecting older married couples'

life satisfaction were examined (Joo & Jun, 2014). Kim and Choi (2011) also found that husbands' marital satisfaction was not affected by their wife's characteristics while the wives' marital satisfaction was significantly influenced by their husband's. The researchers argued that these findings reveal the wives' strong tendency to depend on their husband as well as the wives' family-centered values. All in all, it appears that these findings of gender differences reflect cultural and societal values embedded in marital relationships in later life (Cho et al., 2010; Ko, Kim, & Park, 2013). In this patriarchal society, especially for older married couples who are likely to be deeply influenced by gender role prescribed by the society, the wives' life satisfaction would be negatively affected if their husband's chronic disease worsened because the wives are still considered to be the primary caregiver of the family and they would be expected to provide care to their husband (e.g., Joo & Jun, 2014).

Then, the opposite result of the present study (i.e., the husbands were influenced by their wife's characteristics and behaviors, unlike other previous findings) becomes quite conspicuous on the surface. However, it is suggested that even this finding of wives' social activity participation being influential on husbands' depressive symptoms may be, in fact, signaling the husbands' conservative values in Korea. In the review section above, it was pointed out that older married couples in Korea are not used to communicating with each

other, and especially wives are likely to feel uncomfortable, having to spend time with their retired husbands all day long (Kim, Lee, & Lee, 2013). In western literature, research on marital relationship after a spouse's retirement has also long been examined. Those studies have emphasized that 'couples' increased time together' and 'a rise in marital interaction' could be a source of 'invasion of privacy' that could result in conflict (Keating & Cole, 1980). In this vein, a current discourse on older married couples in Korea is considered here, before speculating the meaning of the unexpected opposite result of the present study.

In recent Korean research or news outlet, if one looks up married couples in old age and their satisfaction in life and marriage, one may easily come across newly created words such as "Sam-sik-yi,"³⁷ "Ha-wa-ii,"³⁸ or "Jol-hon"³⁹ (e.g., Kim, 2017; Lee, 2018; Sung & Oh, 2014). These words reflect negative images of married couples in old age, especially after the husbands' retirement. Couples in old age have to face changes in daily life

³⁷ When literally translated, the meaning of 'Sam-sik-yi' is Three-meals-eater. It means a husband who is always at home after the retirement; and eating three meals every day at home while not eating out with friends or others. Thus, he is not giving a break to his wife from homemaking duty in old age.

³⁸ 'Ha-wa-ii' is literally translated as All-day-glue-to-wife. Basically it means a husband who is always following his wife at home after the retirement, because he is suddenly given free time and does not know what to do. Sometimes, a wife may discover her husband in the kitchen, organizing kitchen utensils and nagging her about how to run a household.

³⁹ 'Jol-hon' is literally translated as 'graduating from the marriage'. It does not mean getting a divorce but means older couples leading their own life without having to change their circumstances legally.

practically and psychologically, once a spouse is retired from the labor force participation. Older couples have to adjust their life because now husbands and wives are spending time together all day, and may have to discuss and make decisions about everything, and may end up psychologically distressed (Sung & Oh, 2014). Indeed, there is a number of research that examine older couples' satisfaction in life and marriage, and often times they tend to focus on 'twilight divorce' or the drastic increase in divorce rate in old age (e.g., Kang & Lim, 2013; You & Jung, 2018). The present study is particularly interested in this aspect here, because it seems that there is a distinctive post-retirement marriage life, experienced by Korean older couples. Unlike other research that pays attention to marital conflict and divorce risks, the present study aimed to see if social activity participation of a spouse (especially a husband) is likely to make an effect on overall well-being of the other spouse (especially the wife) in old age, as in life satisfaction and depressive symptoms. Applying the above discourse to social activity, a question naturally elicited might be: "If retired husbands were always staying at home, demanding the wives three meals per day (i.e., sam-sik-yi), if they were following the wives all day (i.e., ha-wa-ii), and starting to interfere and nag about household workings and homemaking, what would happen to the wives' well-being when their husband actively sought out activities outside or was provided opportunities to participate in social activities outside the home?"

Interestingly, and yet quite unexpectedly, the dyadic accounts of the married couples in the present study showed that the husbands' social activity participation had no influence on their wife, and was not ameliorating nor worsening the wives' later life well-being. In fact, the results showed the opposite. The wives' social activity participation was associated with husbands' depressive symptoms. There are two things that can be considered. First, because the present study was not analyzed within the longitudinal framework, the finding may indicate an inverse relation. That is, if the husbands' levels of depressive symptoms were high, the wives would have been likely to seek out social activities outside the home, as shown in the findings of wives' formal social activity participation. With this speculation, however, the opposite sign of the informal social activity cannot be explained ('If the husbands had lower levels of depressive symptoms, then the wives are likely to actively participate in informal social activity?'); it is because the wives' informal social activity was related to lower levels of their husband's depressive symptoms, unlike the wives' formal social activity being linked to higher levels of their husband's depressive symptoms. Second, it may be that the husbands' depressive symptoms were more likely to have significant findings because the rapid social and cultural changes might have negatively affected Korean males' mental health (Ko et al, 2013) and thus might have been easier to elicit in the analysis, signaling the husbands' conservative

values in Korea. The older husbands would have been more strongly influenced by Confucian values and the gender role prescribed by the society. This point is further discussed in the next section, along with speculating as to why the husbands were likely to respond differently according to their wife's social activity types.

Fourth, it appeared that the husbands were likely to get affected differently according to their wife's participating activity types. For example, when wives participated in informal activities, it was related to improving their husband's depressive symptoms, as expected from the activity theory and the interdependence theory. However, when wives participated in formal activities, their husband's depressive symptoms were likely to get worse, which was an unexpected finding and did not seem to advocate the activity theory of aging on the surface, although it seems that this aspect of dyadic accounts has not been analyzed in previous studies. The question of why the husbands' depressive symptoms were likely to get ameliorated by their wife's informal social activity participation such as meeting up with friends and relatives, but were likely to get worsened by their wife's formal social activities such as going to church, attending alumni society, and joining social gatherings like 'gye-mo-im', could be speculated in a couple of ways.

One way to understand is to look into it from the social structural perspective. The married participants for the study were aged 60 and older living in Korea, and thus, there is a high chance that they were more strongly influenced by gender role prescribed by the society. Traditionally, Korean culture is characterized as patriarchal, and the social structures and systems are governed by male-centered values. Thus, throughout the socialization, the wives in the study would have been living their life being expected to fulfil appropriate female roles within the family, and participating in formal social activities such as volunteering, joining political groups, religious groups, leisure clubs, etc. might have been limited to them (Cho et al., 2010; Ko, Kim, & Park, 2013). In other words, the husbands who are also socialized to think their wife has her own appropriate role in the family might not “approve” the wife’s “outings” in their mind, and that could have contributed to the worsening of the husbands’ depressive symptoms. This reasoning of unequal opportunities for the wives’ formal social activities and subsequently the husbands responding negatively toward the wife’s formal activity participation, should be examined on repeat in future studies; however, if researchers examining older married couples’ interdependent accounts of social activity encounter similar findings, then it may have a potential to provide understandings for participants in diverse settings such as the Korean culture, and a chance to further develop the activity theory of aging. In addition,

this aspect of socialized gender role for differently perceiving formal social activity participation could be speculated in other way. From the perspective of older Korean husbands with Confucian values (Chin, 2002), unlike informal social activities that could be seen as casual, non-purposive activities that do not have a higher priority, the wives' formal social participation could be perceived by their husband as a firm engagement with others outside the family that is not easy to break at an instant notice when a family situation occurs. Thus, the husbands may respond differently towards their wife's social activity participation types. Moreover, it may be related to husbands' dependence on wives in later life. Researchers have suggested that being married in old age is more important for males because husbands tend to get emotional support from their wife as well as practical domestic support for daily life while wives tend to seek confidants and talk to difficulties to friends and relatives (Anderson, 1992; Anderson & McCulloch, 1993; Atchley, 1992; Henkens, 1999; Shin & Cho, 1999), and this aspect could be related to the husbands' negative responses to their wife's formal social activity participation.

Fifth, there is a question of the different results for the husbands' depressive symptoms and life satisfaction. The wives' high levels of social activity participation were likely to influence their husband's depressive

symptoms; and yet, the wives' high levels of social activity participation were not related to their husband's life satisfaction. One of the notable reasons could be the fact that the main goal of this study was to see marital interdependence, and depressive symptoms might have been easier to get detected than witnessing changes in life satisfaction within the couple dyads. This observation is brought up because there have been strong indications in previous research on marital interactions. Tower and Kasl (1996) emphasized that spousal interactions in old age could be more negative because many negative aspects of aging, such as deteriorating health, might highlight one's perceived stress and affect negatively on emotional well-being. Within that context, one spouse's depressive symptoms could easily be influenced by the other spouse's experiences. Researchers have suggested that even spouses with low levels of depressive symptoms could get swayed by high levels of negative interactions between spouses (Coyne et al., 1987; Gotlib & Hammen, 1992). Further, as aforementioned, research has indicated that spouses in old age often feel closer to each other than when they were younger (Carstensen et al., 1995; Walker et al., 2011) and there could be more chance to detect emotional feedback and psychological well-being of older couples. In addition, although the social activity theory encompasses life satisfaction and depressive symptoms within the theory framework, when investigating older married couples in the dyadic setting, it may be useful to observe life

satisfaction and depressive symptoms with a different research frame. Perhaps it is advisable to consider a link between depressive symptoms and life satisfaction when investigating married couples, as tested in other research findings (e.g., Nam & Park, 2010). There could be a mechanism between the two that is suitable for explaining couples' interdependence.

Overall Remarks

All taken together, there appears to be three central findings that can be emphasized again. First, for the individual accounts of the older married couples in the research model, the activity theory of aging seemed to explain the research questions of informal social activity in the present study well. Informal social activity participation did have positive relations with later life well-being as in higher life satisfaction and lower depressive symptoms for both husbands and wives. The overall results of the individual level analyses indicated that, as suggested by Lemon and colleagues (1972), informal social activity may play a more significant role in older adults' later life well-being than formal social activity.

Second, it is noticeable that, when the couples' dyadic accounts are analyzed, the main proposal of social activity participation and its relation to life satisfaction and depressive symptoms in the present study worked only for

husbands. Interestingly, this dyadic result of the husbands being affected by their wife, not vice versa, was the opposite from the previous gender difference findings in the past studies. Though it has to be interpreted with caution, the husbands' depressive symptoms were likely to get ameliorated by their wife's informal social activity participation, but were likely to get worsened by their wife's formal social activities, which was an unexpected finding from the theory perspective. It was speculated that, in the patriarchal Korean society, the husbands being socialized to think their wife had her own appropriate gender roles to fulfil, could have responded poorly towards their wife's formal social activity; and the wives' formal social participation could have been perceived negatively by their husband as a firm engagement with others outside the family that was not easy to break on an instant notice when a family situation occurs. Other explanation could be that husbands tend to get emotional support from their wife while wives tend to seek confidants and talk to difficulties to friends and relatives; and this aspect could have induced negative responses from the husbands.

Third, accounting all the individual and dyadic levels of analyses, the findings in this study showed that social activity participation of older married couples in later life seems to be more relevant for reducing the risk of depressive symptoms than improving one's life satisfaction in old age. This may be due to the fact that the interdependent findings were from the married

couples whose emotional and psychological changes might have been easier to get detected than changes in life satisfaction.

6.2. Implications and Suggestions

Theory and Practice Implications

First, the findings of the present study indicated that there are indeed interdependent dynamics at play when older married couples' social activity participation is observed. Although scholars have suggested that social activity is a significant factor for marital intimacy--- especially for older husbands being actively participating in social activities may ameliorate marital conflict by replacing their sense of role loss, losing contact with co-workers and others; or "retired husband syndrome" affects older wives' feelings of discomfort, invasion of privacy, and inconvenience; and thus observing social activity in old age may provide insights (e.g., Keating & Cole, 1980; Kim & Lee, 2001; Myers & Booth, 1996; Youn & Kim, 1994)--- few research has attempted to explore the relationship between social activity and its dyadic accounts for married couples in old age.

Therefore, it was worthwhile to see if one spouse's social activity participation is actually playing a part in their partner's later life well-being,

and was meaningful to have found a possible association. It provided a starting point for future studies and intervention programs to consider including spousal interactions and dynamics when older married couples are observed, not just their individual characteristics. An interesting finding was, though, unlike the previous suggestions where wives of retired husbands might feel suffocated due to invasion of privacy and thus would show better well-being if the husband was active in social activity participation, the present study found that it was the husbands who were likely to be affected by their wife's active social interactions outside the home. For Korean husbands, it was their wife's formal social activity participation such as joining religious groups, sports/leisure clubs, social gatherings like 'gye-mo-im' that might be associated with worsening of their own depressive symptoms. This implies a cultural, social difference for applying the activity theory and suggests a need for further investigations.

Second, one of the contributions of the present study is that it examined older married couples' interactions while embracing their interdependence by adopting the APIM analyses. That is, there have been studies investigating older married couples with regard to social activity, but in most cases those studies examined individual level accounts and employed statistics tools that assumed the independence of the couple variables, which

might have resulted in biased findings. It is hoped that the present study contributed to building bases for further researches on older married couples' dyadic interactions, especially in social activity.

Third, the present study utilized the KLoSA, which is a nationally representative Korean data. As indicated by the findings of this study, there appears to be cultural and social differences when investigating individual and dyadic accounts of social activity participation in old age. Therefore, the present study played a role in contributing to the theory enhancement by providing findings from the nationally representative Korean data set.

Fourth, the present study has practical implications. Along with the previous research, the present study supports the social activity theory and its implications for interventions. In the individual level analysis, informal social activity participation was found to be related to higher levels of life satisfaction and lower levels of depressive symptoms for both husbands and wives in old age. Therefore, practitioners who are interested in developing intervention programs for married husbands and wives, better later life well-being could be fostered by promoting environments where married older adults' primary, intimate interactions with friends and neighbors could be bolstered.

Also, a unique finding of the present study was that there might be interdependent dynamics at play between husbands and wives in later life, with regard to social activity. Thus, it could be a small indication that researchers and practitioners should consider gender aspects when fostering intervention programs for married adults in old age. Although the findings have to be observed further in future studies, it appears that, when developing intervention programs for married couples in old age, couples' interdependence could be incorporated. For example, when a program aims to improve married men's depressive symptoms in later life, they could work on enhancing their wife's social activity participation at the same time. For older wives, perhaps creating an environment where specific, primary relationships could be more emphasized as well as getting emotional support by talking about difficulties and inner struggles within informal gatherings could be encouraged. This promotion of wives' informal social activity might be beneficial to husbands' later life well-being.

Limitations and Suggestions for Future Studies

There are limitations in this study that need to be addressed. Although the present study aimed to explore the dyadic accounts of social activity participation and later life well-being within the marital setting by adopting

the interdependence theory and the APIM, it was hard to capture and elucidate the exact mechanism behind these dyadic paths between the couples' characteristics/behaviors and their effects on the partner. Even though Kenny and colleagues (e.g., Kenny, 1996, Kenny, Kashy, & Cook, 2006) illustrated spousal interactions and their highly interdependent nature by proposing 'partner effects' (for example, when a husband's certain behaviors or characteristics--- such as actively participating in sports club activities or showing dependent tendency toward his wife with regard to emotional support and domestic daily interactions--- plays a role in increasing/decreasing levels of the wife's satisfaction in life and the marriage), there still need a clear understanding as to how an individual level of behaviors and characteristics can affect a partner level outcome. It appears that much research is needed in this aspect, i.e., the paths/mechanism behind it, in future studies.

The cross-sectional nature of the analyses in the present study limits its interpretations on the findings. As aforementioned in the literature review section, there are studies suggesting that it is depressive symptoms that are likely to affect social activity participation in old age (e.g., Ha, Chung, & Jeong, 2015), not necessarily social activity participation playing a role in later life well-being, as the present study proposed. By doing cross-sectional analyses, the present study could not affirm cause and effect associations

between social activity participation and life satisfaction/depressive symptoms. Therefore, future studies interested in dyadic accounts of social activity and later life well-being should analyse these relations with longitudinal data, in order to provide a clearer picture for individual and dyadic findings.

Although the present study was primarily interested in married couples in old age and their interdependent experiences in this aging society, by purposefully selecting only married couples from the data, those who were divorced and were not able to keep their marital status had to be left out in the analyses. This means that the participants in the study could be those couples who were likely to be in better marital relations and likely to be more interdependent than those divorced, for instance. Thus, the findings should not be generalized to older adult population as a whole.

Also, by only including married couples, there is a likelihood that the participants may be comparatively well off financial-wise, even though the household income was controlled. It is said that those living alone and being single in old age are likely to have lower socio-economic status than the married (Kim, Lee, & Jung, 2015; Kwon, 2019). In addition, by selecting only married participants, the study necessarily eliminated older adults who are single or living alone. This means that a large part of the older adult population who could have shown high levels of social activity participation due to being

single and lonely was not included in the study. Ji (2012) suggested that older adults who are not married have a desire to fulfill the vacancy they feel. In her study, older women without a spouse were likely to experience loneliness, had a reduced social network, and thus, showed higher levels of activity participation that allow them to meet many people.

Additionally, it is suggested that future studies use more broad observational measurement of life satisfaction. Even though the assessments of reliability and validity of 1-item Life Satisfaction scale have shown that it is comparable and effective, when compared to multi-item life satisfaction scales (Cheung & Lucas, 2014; Lucas & Donnellan, 2012), employing a life satisfaction scale with more indicators may offer a fuller picture of older adults' later life well-being. Also, even though the present study did not include marital satisfaction as a control because the make-up of the variable in the KLoSA data,⁴⁰ it may be worthwhile to control the effect of marital

⁴⁰ The KLoSA adopts five assessment indicators for measuring various aspects under 'the quality of life': i.e., Satisfaction with health status, satisfaction with financial status, satisfaction with spousal relationship, satisfaction with children relationship, and overall satisfaction with quality of life (happiness). Even though these five aspects of 'quality of life' were assessed together within the survey, it is suggested that the nature of the 'overall satisfaction with quality of life' is quite different from the other four assessments and thus these five assessment indicators altogether do not quite provide a cohesive measurement for 'the quality of life.' Therefore, researchers have opted to use the 'overall satisfaction with life' separately or opted to use the sum of the other four assessment indicators. Nonetheless, because the way the survey was conducted (i.e., the 'overall satisfaction with life' was asked in relation to 'satisfaction with spousal relationship'), these aspects appear to be highly

satisfaction in future studies with other data set and measurements. As well, even though it is rather tricky to conduct a group analysis with the APIM because the reference has to be opted between husband and wife for the comparison, still, it would be interesting to see dyadic examinations of young-old and oldest-old couple groups of social activity participation in future studies.

correlated. Therefore, the present study did not include ‘satisfaction with spousal relationship’ as a control variable in the research model.

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Appendix

<Measurements of the Variables>

Predictor Variable: Measurements of Social Activity Participation

Formal social activity participation

1-a. 응답자님께서는 아래 단체 가운데 참여하고 계신 것이 있으십니까?
있으시다면 모두 말씀해 주십시오.(복수응답선택)

- ① 종교모임
- ② 친목모임(계모임, 노인정 등)
- ③ 여가/문화/스포츠 관련단체(노인대학 등)
- ④ 동창회/향우회/종친회
- ⑤ 자원봉사
- ⑥ 정당/시민단체/이익단체
- ⑦ 기타
- ⑧ 없음

1-b. [1-a.에서 선택한 번호] 그 활동에는 얼마나 자주 참여하십니까?

- ① 거의 매일 (일주일에 4회 이상)
- ② 일주일에 한번 정도
- ③ 일주일에 두세 번 정도
- ④ 한 달에 한 번 정도
- ⑤ 한 달에 두 번 정도(2주에 한번 정도)
- ⑥ 일 년에 한두 번 정도
- ⑦ 일 년에 서너 번 정도 (3~4개월에 1번)
- ⑧ 일 년에 대여섯 번 정도 (2개월에 한번 정도)
- ⑨ 일 년에 거의 활동하지 않음
- ⑩ 거의 활동하지 않음

Informal social activity participation

2. 응답자님과 가까이에 살면서 친하게 지내는 친구나 친척 또는 이웃사촌이 있습니까? 있으시다면 이분들과 얼마나 자주 만나십니까?

- ① 거의 매일(일주일에 4회 이상)
- ② 일주일에 한번 정도
- ③ 일주일에 두 세번 정도
- ④ 한 달에 한번 정도
- ⑤ 한 달에 두 번 정도(2주에 한번 정도)
- ⑥ 일 년에 한두 번 정도
- ⑦ 일 년에 서너 번 정도(3~4개월에 1번)
- ⑧ 일 년에 대여섯 번 정도(2개월에 한번 정도)
- ⑨ 일 년에 거의 볼 수 없음
- ⑩ 친하게 지내는 사람 없음

Outcome Variable 1: Measurements of Life Satisfaction

3. 동년배의 다른 분들과 비교했을 때 응답자님의 전반적인 삶의 질(행복감)에 대해서는 어느 정도 만족하고 계십니까?

[보기카드를 보시고 동의하시는 정도를 말씀해 주십시오. 0에 가까울수록 그럴 가능성이 없는 것이며, 100에 가까울수록 그럴 가능성이 매우 높은 것입니다.]

0--- 10--- 20--- 30--- 40--- 50--- 60--- 70--- 80--- 90--- 100

Outcome Variable 2: Measurements of Depressive Symptoms

4. 다음은 지난 일주일간의 느낌과 행동에 관한 질문입니다. 지난 한 주 동안, 얼마나 자주 다음과 같이 느껴지거나 행동하셨는지 말씀해주시요.

- 4-a. 지난 일주일간 사람들이 나에게 차갑게 대하는 것 같았습니까?
- 4-b. 지난 일주일간 마음이 슬프셨습니까?
- 4-c. 지난 일주일간 많이 우울하시다고 생각하셨습니까?
- 4-d. 지난 일주일간 모든 일들이 힘들게 느껴지셨습니까?
- 4-e. 지난 일주일간 비교적 잘 지내셨다고 생각하십니까?
- 4-f. 지난 일주일간 사람들이 나를 싫어하는 것 같았습니까?
- 4-g. 지난 일주일간 잠을 잘 이루지 못하셨다고 생각하십니까?
- 4-h. 지난 일주일간 큰 불만 없이 생활하셨다고 생각하십니까?
- 4-i. 지난 일주일간 세상에 홀로 있는 듯한 외로움을 느끼셨습니까?
- 4-j. 지난 일주일간 도무지 무얼 해나갈 엄두가 나지 않으셨습니까?

- ① 잠깐 그런 생각이 들었거나, 그런 생각이 들지 않았음(하루미만)
- ② 가끔 그런 생각이 들었음(하루 이틀 정도)
- ③ 자주 그런 생각이 들었음(3일~4일 정도)
- ④ 항상 그런 생각이 들었음(5 일~7 일 정도)

Control Variables⁴¹

Measurements of Socio-demographic variables (Age, Educational attainment, Labor force participation, Residential area, Religion)

5. 먼저 기본조사에서 알려주신 기본적인 사실들을 확인하겠습니다.

[응답자 성명]께서는 _____년 _____월 _____일([음력/양력] 기준) 출생이 맞습니까?

[주민등록 또는 호적상의 나이가 아니라 실제 태어난 날을 기준으로 합니다.]

⁴¹ As aforementioned, the present study utilized the restructured data set that was provided by the KLoSA, and thus, some of the questionnaires illustrated here are remolded into another data of responses, and then those were used in the study.

- ① 예
- ⑤ 아니오

5-1.check. ____님의 한국 나이: 응답자의 한국 나이(2014-생년+1)

- ① 확인

6. 취득하신 정규학력은 다음 중 무엇입니까?

- ③ 초등학교
- ④ 중학교
- ⑤ 고등학교
- ⑥ 전문대학
- ⑦ 대학교
- ⑧ 대학원 석사
- ⑨ 대학원 박사
- 기타
- 모르겠음
- 응답거부

7. 현재 수입을 목적으로 일하고 계십니까? 여기서 일이란 직장에 다니시는 것 포함해서, 자기 사업을 하고 계시거나, 가족이나 친척의 일을 도와주시는 것을 모두 포함한 것을 말합니다.

- ① 예
- ⑤ 아니오

8. 선생님의 거주지역은 어디입니까?

9. [응답자 성명]님께서는 종교가 있습니까? 있으시다면 어떤 종교를 가지고 계십니까?

- ① 종교 없음
- ② 개신교

- ③ 천주교
- ④ 불교
- ⑤ 원불교
- 기타

Measurements of Income-related variable (Household income)

10. 작년 한 해(2015년) [응답자 성명]님을 포함해서 함께 사시는 가구원의 총소득은 얼마나 됩니까? 부동산 소득과 금융소득을 제외하고 말씀해 주십시오.
(단위: 만원)

___억[최소 1 ~ 최대 99] ___만원 [최소 0 ~ 최대 9997]

Measurements of Health-related variables (Subjective health, Cognitive functioning levels)

11. 건강상태에 관한 질문을 드리겠습니다. 본인의 건강상태에 대해 어떻게 평가하십니까?

- ① 매우 좋음
- ② 좋은 편
- ③ 보통
- ④ 나쁜 편
- ⑤ 매우 나쁨

12. 지금부터 여러 가지 간단한 문제들을 질문할 것입니다. 어떤 문제는 매우 쉽고, 어떤 문제는 좀 어려울 수도 있습니다. 문제가 너무 쉽더라도 무시한다고 오해하지 마시고, 어려운 문제에 대해서는 모르신다고해서 낙담하시거나 실망하지 마십시오. 알고 계신 만큼만 대답해 주시면 되겠습니다.

12-a. 지금부터 날짜에 대한 질문을 드리겠습니다. 오늘 날짜를 생각해 보십시오. 오늘은 몇 년도 몇 월 며칠입니까? (음력인 경우, 날짜 확인 후 맞으면 정답)

- ① 년도, 월, 일 중 한 가지만 정답
- ② 년도, 월, 일 중 두 가지 정답
- ③ 년도, 월, 일 세 가지 모두 정답
- ⑤ 세 가지 모두 오답

12-b. 그러면 오늘은 무슨 요일입니까? (월, 화, 수, 목, 금, 토, 일 중에서 어느 요일인가요?)

- ① 요일 정답
- ⑤ 요일 오답

12-c. 지금이 어떤 계절이지요? (요즈음은 봄, 여름, 가을, 겨울 중 어느 계절이지요?)

- ① 계절 정답
- ⑤ 계절 오답

12-d. 현재 응답자님과 제가 있는 이곳에 대해 말씀해 주십시오. 여기가 어디입니까? (여기가 무엇을 하는 곳입니까?)

- ① 장소 정답
- ⑤ 장소 오답

12-e. 응답자님의 주소는 어떻게 되시는지요? 시(도), 구(시,군), 동(읍,군,면), 번지 (세부주소) 4가지를 모두 말씀해 주세요.

- ① 시(도), 구(시, 군), 동(읍, 군, 면), 번지(세부주소) 중 한 가지만 정답
- ② 시(도), 구(시, 군), 동(읍, 군, 면), 번지(세부주소) 중 두 가지만 정답
- ③ 시(도), 구(시, 군), 동(읍, 군, 면), 번지(세부주소) 중 세 가지만 정답
- ④ 시(도), 구(시, 군), 동(읍, 군, 면), 번지(세부주소) 중 네 가지 모두 정답
- ⑤ 네 가지 모두 오답(주소를 하나도 알지 못함)

12-f. 자, 잘 들으세요. 제가 지금부터 단어3개를 불러드립니다. 모두 들으시고나서 그대로 외워서 저에게 말해주세요. 순서는 상관없습니다. 단어 3개를 한 번만 불러드립니다.

[단어 리스트 랜덤으로 띄우기]

물건 이름 1 : 비행기, 연필, 소나무

물건 이름 2 : 눈사람, 의자, 복숭아

물건 이름 3 : 선생님, 공장, 세탁기

물건 이름 4 : 젓가락, 사과, 옷걸이

물건 이름 5 : 방망이, 구두, 바닷물

- ① 순서와 상관없이 세 단어 중 한 단어만 정답
- ② 순서와 상관없이 세 단어 중 두 단어만 정답
- ③ 순서와 상관없이 세 단어 중 세 단어 모두 정답
- ⑤ 세 단어 모두 외우지 못함

제가 조금 전 불러 드렸던 단어 세 개를 잘 기억하고 계세요, 제가 조금 있다가 다시 외워 보시라고 할 겁니다. [응답자가 단어 3개를 모두 맞추지 못한 경우에만 1회 더 불러줌]

12-g. 지금부터 뺄셈을 몇 개 해보겠습니다. 100에서 7을 빼면 얼마가 되지요?
__(응답자가 말하는 숫자 적기)____

12-h. 그러면 거기서 7을 빼면 얼마가 되나요?
__(응답자가 말하는 숫자 적기)____

12-i. 그러면 거기서 또 7을 빼면 얼마가 되나요?
__(응답자가 말하는 숫자 적기)____
__(응답자가 말하는 숫자 적기)____

12-j. 마지막으로 그럼 거기서 7을 빼면 얼마가 되나요?
__(응답자가 말하는 숫자 적기)____

12-k. 제가 조금 전에 외우고 계시라고 했던 단어 3개 기억나세요? 모두 말씀해 주세요. 무엇 무엇이었지요?

- ① 순서와 상관없이 세 단어 중 한 단어만 정답
- ② 순서와 상관없이 세 단어 중 두 단어만 정답
- ③ 순서와 상관없이 세 단어 중 세 단어 모두 정답
- ⑤ 세 단어 모두 외우지 못함

12-l. [소지한 소지품 1 을 가리키시면서] 응답자님 이것은 무엇입니까?

[소지품은 핸드폰, 장갑, 모자, 반지 등등 가까이에 있는 누구나 말할 수 있는 물건이면 상관없습니다. 노인들은 필기구를 연필이라 지칭하는 경향이 있으므로 볼펜을 연필이라고 해도 맞는 것으로 간주합니다.]

- ① 정답
- ⑤ 오답

12-m. [소지한 소지품 2 를 가리키시면서] 응답자님 이것은 무엇입니까?

- ① 정답
- ⑤ 오답

12-n. 이번에는 제가 하는 말을 그대로 따라서 말씀하시면 됩니다. 준비되었지요? 자, 들어보세요.

[문장을 큰 소리로 또박또박 읽어 드릴 것, 치아가 없거나 구강구조상 문제가 아닌, 잘못 알아들어서 부정확하게 발음할 경우 오답 처리합니다. 첫 시행에서 실패하고, 반복시행에서 성공한 경우에는 는 점수를 주지 않는 것이 원칙이나, 검사자가 판단하기에 첫 시행에서 응답자의 주의가 산만하여 제대로 듣지 않고 응답한 것으로 보이면, 응답자의 주의를 환기시킨 후 다시 한번 실시할 수 있고 이때 맞추면 정답으로 간주합니다.]

- ① 정답
- ⑤ 오답

[문장 리스트 랜덤으로 띄우기]

문장 1 : 백문이 불여일견

문장 2 : 꺼진 불도 다시보자

문장 3 : 하늘아래 뫼이로다

문장 4 : 하느님이 보우하사

문장 5 : 삼천리 화려강산

12-o. 자, 지금부터 제 말을 잘 알아들으시고, 그대로 따라 해 주세요. 준비되셨지요? 제가 이 종이를 드리면 종이를 뒤집으신 다음, 반으로 접어서, 다시 저에게 주세요.

- ① 종이를 뒤집기, 반으로 접기, 건네주기 세 가지 중 한 가지만 수행
- ② 종이를 뒤집기, 반으로 접기, 건네주기 세 가지 중 두 가지만 수행
- ③ 종이를 뒤집기, 반으로 접기, 건네주기 세 가지 중 세 가지 모두 수행
- ⑤ 세 가지 동작 모두 수행 못함

12-p. 제가 무엇을 보여드리겠습니다. 지금 보여 드리는 이 문장을 응답자님께서 큰 소리로 읽어주시고, 쓰인대로 행동을 해보세요.

- ① 읽고, 눈감기 중 한 가지만 수행
- ③ 읽고, 눈감기 모두 수행
- ⑤ 두 가지 모두 수행 못함

12-q. [응답자에게 펜을 드리고, 앞서 사용했던 종이의 여백을 가리키며 시작]
여기에 오늘 기분이나 날씨에 대해서 편안하게 한 문장으로 써 보세요.

- ① 쓰기 수행
- ⑤ 수행하지 못 함

12-r. [5각형 두 개가 겹쳐진 그림 종이를 내 놓고 시작]
여기 그림이 보이시지요? 이 그림과 똑같이 여기에 그림을 그려주세요.

- ① 그리기 수행
- ⑤ 수행하지 못함

Measurements of Adult children-related variables (Cohabitation with children, Freq. of meeting non-cohabitant children)

13. [자녀 이름]님은 [응답자 성명]님과 현재 함께 살고 계십니까?
[자녀가 학업, 취업 등의 이유로 떨어져 살고 있으면 비동거]

- ① 예
- ⑤ 아니오

14. [현재 비동거_부부모두] [자녀 이름]님과 얼마나 자주 만나십니까?

- ① 거의 매일(일주일에 4회 이상)
- ② 일주일에 한 번 정도
- ③ 일주일에 두세 번 정도
- ④ 한 달에 한 번 정도
- ⑤ 한 달에 두 번 정도(2주에 한 번 정도)
- ⑥ 일년에 한두 번 정도
- ⑦ 일년에 서너 번 정도(3~4개월에 한 번)
- ⑧ 일년에 대여섯 번 정도(2개월에 한 번 정도)
- ⑨ 일년에 거의 볼 수 없음
- ⑩ 만나지 않음

노년기 사회활동 참여: 노인부부의 자기-상대방 상호작용

서울대학교 대학원

사회복지학과

이 은 경

고령화 사회와 함께, 어떻게 하면 잘 나이들 것인가(age well)에 대한 관심이 증가하였고, 노후 사회활동에 대한 깊이있는 통찰 및 실질적 프로그램 개발과 관련한 유용성으로 노년기 활동이론(activity theory of aging)이 적극적으로 수용되고 있다. 아울러, 최근 노인부부가구의 증가와 더불어 노년기 부부의 역동적인 관계를 살펴보는 연구들이 늘고 있는데, 배우자의 행동, 태도, 일상활동 등이 상대 배우자에게 미치는 영향을 고찰하는데 적용될 수 있는 상호의존이론(interdependence theory)의 발전도 함께 이루어졌다. 부부의 상호의존 및 상호작용은 장기적으로 볼 때 더욱 중요하다는 연구결과들에 힘입어 상호의존이론이 노인부부에 대한 연구에 적극 활용되고 있다. 그러나, 오랫동안 함께해온 역사를 가지고 있는 노인부부와 관련한 연구는 다른 연령집단에 비해 상대적으로 적게 이뤄지고 있고, 그 중 노인부부의 사회활동과 그 영향을 상호의존의 관점에서 살펴본 연구는 더욱 부족한 실정이다. 따라서, 본 연구는 노인부부의 사회활동 참여와 긍정적·부정적 측면의 노후 웰빙, 즉, 삶만족과 우울증세와 관련하여, 개인(individual) 및 양자관계(雙; dyadic) 차원에서의 경험을 살펴보는 데 그 목적을 두었다.

제 6 차 고령화연구패널(KLoSA) 자료가 활용되었고, 만 60 세 이상의 1,631 쌍(3,262 명) 노인부부가 연구대상자로 선별되었다. 특히, 부부의 상호의존성을 적절한 통계적 방법으로 검증할 수 있는 자기-상대방 상호의존 모델 (APIM)로 자료를 분석하였다. 노인부부의 사회활동 참여와 삶만족 및 우울증세와의 개인적·양자적 역동관계는, 연령, 교육수준, 현재 노동참여, 가구소득, 주관적 건강, 인지기능 수준, 자녀와의 동거유무, 비동거 자녀와의 만남빈도, 거주지역, 그리고 종교유무가 통제된 상태에서 분석되었다.

먼저 개인적 수준의 분석결과, 남편과 아내 모두에게서, 친구, 이웃, 친척 등과의 만남과 같은 비공식적 사회활동 참여는 높은 수준의 삶만족과 낮은 수준의 우울증세와 관련이 있는 것으로 나타났다. 그러나, 양자적(dyadic) 수준의 분석에서는 아내가 남편에게서 영향을 주로 받는다는 선행연구들과 달리, 남편이 아내의 영향을 받는 것으로 나타났다. 특히, 예상과 달리, 아내가 종교집단 활동, 연고집단 활동, 친목집단 활동, 여가단체 활동 등 공식적 사회활동 참여에 적극적일수록 이것이 남편의 높은 우울증세와 관련이 있는 것으로 나타났다. 그러나, 이와 같은 반대방향의 결과는 오히려 한국사회에서 남편들이 가지고 있는 보수적이고 가부장적인 가치를 반영하는 것일 수 있다고 보고 이에 대해 논의하였다. 아울러, 노년기 활동이론과 상호의존이론에 대한 함의 및 개입방법 개발에 대한 함의가 제안되었다.

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 주요어: 사회활동 참여, 삶만족, 우울증세, 활동이론, 상호의존이론,

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